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Geoffrey L. Wilcox

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I. INTRODUCTION

Ground level ozone pollution is a major constituent of smog.[1] It is a highly reactive and extremely corrosive gas that adversely affects both animal and plant life.[2] Scientists have long recognized that exposure to elevated levels of ozone is dangerous for people with impaired respiratory systems and for children, and unhealthy for the population as a whole.[3] Although it is difficult to quantify the cumulative societal damage to human health caused by exposure to ozone, the effects, ranging from temporarily impaired lung performance to permanent lung damage, impose a heavy toll.[4] Scientific studies have also

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* B.A. June, 1983, Dartmouth College; J.D. May, 1987, Marshall-Wythe School of Law, College of William & Mary; LL.M. September, 1995, George Washington University Law School.

[1] *See generally* NATIONAL RESEARCH COUNCIL, RETHINKING THE OZONE PROBLEM IN URBAN AND REGIONAL AIR POLLUTION (1991) [hereinafter RETHINKING OZONE]. Ground level ozone and stratospheric ozone pose separate environmental concerns. Ozone in the upper atmosphere shields the planet and its inhabitants from harmful ultraviolet rays of the sun. Depletion of stratospheric ozone by chlorofluorocarbons and other pollutants raises the risk of disrupting the Earth's protective mantle of atmosphere. Ground level ozone, however, is the cause of human lung injury, agricultural damage, and other environmental problems. It is thus not the chemical that is the "pollution," but rather the chemical in the wrong place. *Id.*

[2] *See generally* OFFICE OF TECHNOLOGY ASSESSMENT, U.S. CONGRESS, CATCHING OUR BREATH: NEXT STEPS FOR REDUCING URBAN OZONE (1989) [hereinafter CATCHING OUR BREATH]. In both animal and plant tissues, ozone oxidizes the cells at an accelerated rate thereby causing premature aging. In plants this interferes with photosynthesis and in humans it interferes with breathing.

[3] *See id.* at 39–70.

[4] Valuation of varied factors such as quality of life reductions, decreased work productivity,

established that ground level ozone causes serious damage to the economy through reduced agricultural crop productivity.[5] In addition, experts have documented the detrimental effects of ozone on trees, and extrapolate that the effects of elevated ozone levels on the environment as a whole are significant.[6] The cross-media potential for pollution transport has recently received scrutiny as scientists establish the causal connection between water pollution and air pollution.[7] In light of these dangers and costs to society,[8] Congress directed the Environmental Protection Agency (EPA) to regulate ozone as a criteria pollutant under the Clean Air Act (CAA),[9] to establish a National Ambient Air Quality Standard (NAAQS) for ground level ozone,[10] and to restrict emissions of ozone's precursor chemicals.

Unlike other pollutants, ozone does not emanate directly from automobiles or other sources. Ozone results instead from the combination of oxygen, nitrogen oxides (NOx) and various hydrocarbon pollutants called volatile organic compounds (VOCs) in the atmosphere.[11] Combination of these chemicals in conjunction with the energy provided by sunlight[12] produces ozone through a series of photochemical reac-

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and increased medical costs is a speculative endeavor, but experts place the amount in the range of $500 million to $4 billion per year. *Id.* at 39.

[5] *Id.* at 24, 79–93. The estimates vary considerably, but one suggests that a reduction of just 25% of the increment between background levels and the current levels of ozone would translate into a $500 million to $1 billion per year increase in crop production.

[6] *Id.* at 79.

[7] Experts contend that transport from the Midwest of airborne nitrogen oxides, a precursor chemical for ozone, is the largest source of nitrogen pollution in the Chesapeake Bay. *See* Todd Shields, *Scientist Tracks Bay Pollution Back to Stacks in the Midwest*, WASH. POST, Apr. 30, 1996, at B1.

[8] *See generally* 42 U.S.C. § 7401(b) (1994). Unless otherwise noted, all U.S.C. cites are current through 1994.

[9] Pub. L. No. 101–549, 104 Stat. 2468 (1990) (codified at 42 U.S.C. §§ 7401–7671q (1994)). Prior incarnations of the CAA are identified as the "19XX CAA."

[10] The NAAQS is the result of detailed review of scientific studies to determine the level at which the pollutant will have no adverse effects for humans. *See* RETHINKING OZONE, *supra* note 1, at 68. The current standard allows a daily maximum one-hour average ozone concentration of 0.12 parts per million (ppm). If the ambient air of an area exceeds this standard more than once per year averaged over a three-year period, the area is a "nonattainment" area for ozone. CATCHING OUR BREATH, *supra* note 2, at 3.

[11] CATCHING OUR BREATH, *supra* note 2, at 97.

[12] The necessity of intense sunshine and high temperatures to the creation of ozone results in an ozone "season" during which ozone formation peaks. Throughout most of the country, the season is from May to October, but it can be shorter in the northern portion of the country or year round in the southern portion of the country. *See generally* EPA, NATIONAL AIR QUALITY AND EMISSIONS TRENDS REPORT 1993 43 (EPA–454/R–94–026) (1994) [hereinafter 1993 EPA TRENDS REPORT].

tions.[13] An ozone molecule therefore typically forms in the atmosphere at some distance removed from the automobiles, smokestacks, or other sources that emitted its constituent parts.[14] The precise distance from those sources at which the molecule forms and the subsequent course the molecule follows are subject to a complex set of chemical, topographical, and meteorological variables.[15] Through computer modeling, scientists are able to estimate the suspected rate of ozone's creation and analyze its subsequent movement in air currents in the atmosphere.[16] The latter phenomenon, known as "ozone transport," poses major pollution concerns in the United States and raises significant challenges in statutory implementation for EPA.[17]

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[13] Experts continue to explore the complex chemical processes involved in the creation of ozone. Scientists have recently reexamined the synergies between man-made and biogenic sources of NOx and VOCs in the atmosphere that frustrate even the most stringent controls on man-made sources of ozone precursors. *See* Paul J. Miller, *Cutting Through the Smog: The 1990 Clean Air Act Amendments and a New Direction Towards Reducing Ozone Pollution*, 12 STAN. ENVTL. L.J. 124, 124-25 (1993) (noting that President Reagan's infamous "trees cause pollution" statement was not completely without basis in reality).

[14] Common sources of VOCs are exhaust from internal combustion engines, evaporation of solvents and petroleum products, and chemical manufacturing. NOx derives from fossil fuel combustion in sources such as automobiles and power generating plants. CATCHING OUR BREATH, *supra* note 2, at 4.

[15] Modeling studies suggest that ozone can form 100 miles or more from the source of the original chemical components under the proper meteorological conditions. *Id.* at 23, 225. The Ozone Transport Assessment Group, discussed *infra* note 397 and accompanying text, has commissioned modeling to assess how much transport from the Midwest and South affects the states of the Northeast. Preliminary results suggest that ozone precursors typically may not blow more than 200 miles, thus providing ammunition to states that seek to avoid additional control measures designed to alleviate ozone pollution in more distant areas. *See* Jim Nichols, *Findings Cloud Pollution Theories; Midwest Smog May Not Drift to the Northeast*, CLEV. PLAIN DEALER, Sept. 2, 1996, at 1A.

[16] Experts hotly debate the methodology, variables, assumptions, results, and implications of these models, but they do provide some relatively objective bases for policymakers to rely upon. Challenges to EPA actions often devolve into technical disputes about the details of modeling and their outcome-determinative effects. *See, e.g.*, Connecticut v. EPA, 696 F.2d 147, 157–61 (2d Cir. 1982) (reciting lengthy disputes about modeling that the court ultimately resolved by deference to agency expertise in the absence of arbitrary and capricious actions). EPA has been under pressure to revise its models to reflect different policy goals. *See Mobile Sources Group Aims to Revise In-Use, Emission Modeling Standards*, Chem. Reg. Rep. Daily (BNA), at D–3 (July 28, 1995). As an example of these debates, one need only peruse the technical comments and responses to EPA actions entailing modeling such as NOx exemptions. *See, e.g.*, Approval of Section 182(f) Exemption; Illinois, Indiana, Michigan, and Wisconsin, 61 Fed. Reg. 2428, 2429–36 (1996) (hereinafter *Lake Michigan NOx Waiver*).

[17] EPA describes ozone as "the most complex, difficult to control, and pervasive of the six principal pollutants." *See* EPA AIR QUALITY TRENDS BROCHURE 1994 (EPA–454/F-95–003) (1995) (available at <http://www.epa.gov/oar/aqtrn94>) [hereinafter 1994 EPA TRENDS BROCHURE].

Ground level ozone is the most pervasive air pollution problem in the nation.[18] Despite technological advances in pollution control, primarily through measures that reduce emissions from automobiles, increases in population and in per capita consumption of energy have kept ambient ozone levels high.[19] Large portions of the United States, both urban and rural, have ozone levels that exceed the ozone NAAQS.[20] Particularly in the northeast corridor of the United States from Virginia to Maine, the incidence of days with ozone levels that exceed the standard is growing.[21] In 1993, all states in the Northeast Ozone Transport Region (Northeast OTR),[22] except Vermont, had more violations than in 1992, and many states had twice the number of violations that occurred in those same areas in the previous year.[23] These violations occurred in substantial part because of ozone trans-

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[18] There are currently 68 areas designated as nonattainment for ozone. EPA's current list of nonattainment areas is available at <http://www.epa.gov/airs/nonattn.html>.

[19] *See generally* Arnold W. Reitze, Jr., *A Century of Air Pollution Control Law: What's Worked; What's Failed; What Might Work*, 21 ENVTL. L. 1549 (1991) (arguing that we have placed too much reliance on technological solutions to pollution and not enough on the underlying issues of population and consumption growth). EPA officials have noted that there has been "dramatic" progress in reducing levels of ambient ozone in the 25 years following the 1970 CAA despite the facts that "the U.S. population grew by 27%, the domestic economy grew by 90%, and the number of vehicle miles traveled grew by 111 percent" during the same period. *See Clean Air Act Amendments: Hearings Before the Subcomm. on Oversight and Investigations and Health and Environment of the Comm. of Commerce*, 104th Cong., 1st Sess., *available in* LEXIS, Legis Library, CNGSTST File, (Nov. 9, 1995) (testimony of Mary Nichols, Assistant Adm'r, Office of Air and Radiation, EPA) [hereinafter *Nichols Testimony*].

[20] Ozone transport is not purely an urban problem. EPA monitoring and modeling have demonstrated that transport from northeastern cities has invaded such otherwise pristine wilderness areas as Maine's Acadia National Park with ozone levels in excess of the NAAQS. Even Alaska's remote Denali National Park suffers from smog transported from Pacific Rim countries. *See* Linda Kanamine, *Environmental Haze Diminishes Scenic Vistas; Magnificence is Lost in the Summer Heat*, U.S.A. TODAY, May 23, 1991, at 8A.

[21] Other recognized transport regions are the Chicago region, the Cleveland-Erie, Pa. region, the Texas-Louisiana region, and the southern California intrastate region. Prior to the 1990 CAA, Congress considered creation of ozone transport regions for the Chicago and Texas-Louisiana regions as well as for the Northeast. *See Sen. Mitchell Offers Clean Air Act Extension Bill; New Deadlines Ties to Pollution Control*, Env't Rep. (BNA) No. 18, at 573 (June 12, 1987).

[22] Section 184 of the 1990 CAA created the Northeast Transport Region expressly to address the problem of ozone transport that plagues the urban corridor from metropolitan Washington, D.C., to Maine. The creation of the Northeast OTR and its impact upon ozone transport are discussed in more detail below. The jurisdictions in the Northeast OTR are: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania, Delaware, Maryland, the District of Columbia, and the northern portion of Virginia. 42 U.S.C. § 7511(c).

[23] EPA, TECHNICAL SUPPORT DOCUMENT, THE LONG RANGE TRANSPORT OF OZONE IN THE OZONE TRANSPORT REGION 2 (1994) [hereinafter OTR TECHNICAL SUPPORT DOCUMENT].

port from other states in the Northeast OTR or beyond.[24] The levels of ozone in 1994 were stable, probably through a combination of meterological conditions and emissions reductions.[25]

The summer of 1995, however, brought numerous incidents of ozone nonattainment.[26] Many states with nonattainment areas around the country had petitioned EPA for redesignation to attainment status[27] because ozone levels had been relatively low for two of the requisite three years needed to establish compliance.[28] The 1995 heat wave rendered the petitions moot as many of these areas suffered repeated ozone violations.[29] Rather than redesignation to attainment, some moderate nonattainment areas may instead face elevation to serious nonattainment status for failure to meet the NAAQS in the three years prior to their 1996 attainment deadline.[30] Critics of the 1990

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[24] *Id.* at 7.

[25] *See* 1994 EPA TRENDS BROCHURE, *supra* note 17. EPA noted that in 1994 there was 12 percent less ozone than in 1985, but qualified this by explaining that ozone levels vary depending upon meterological conditions and that 1994 had the second best record for nonattainment in the ten preceding years. *Id.* In essence, the level of improvement should be viewed with caution. *See id.*

[26] The ozone season of 1995 was the worst since 1988 for NAAQS violations. *See* Gary Lee, *High Ozone Levels Prompt Warnings to Stay Indoors; Readings Far Exceed Federal Standards*, WASH. POST, July 28, 1995, at A3 (noting that 28 states had violations halfway through the season). The Northeast OTR had significantly more violations in 1995 than in 1994. *See Northeast Ozone Problems Continue, Show Long Term Gain*, OCTANE WK., Oct. 9, 1995, at 2. New Jersey and Maryland, for example, each had 14 exceedences of the NAAQS in 1995. *Id.* Comparatively speaking, however, 1995 was still an improvement over 1988. *See Smoggy Days of Summer Are On The Way Out*, THE CAPITAL, Sept. 8, 1995, at A1 (noting that although Baltimore had 14 violations in 1995, it was an improvement over the 36 violations in 1988); *see also Summer Ozone Exceedences In OTR Drop 82% From Level in Steamy '88*, ENV'T WK., Jan. 12, 1996 (noting that with 267 cumulative NAAQS violations across the Northeast OTR in 1995, it was nevertheless an improvement over 1988).

[27] A state or area attains the ozone NAAQS if the number of violations during a three-year period is less than or equal to three, and the state meets other requirements. 40 C.F.R. § 50.9 (1995). For a fuller discussion of the relevant factors, see Proposed Rule, Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes: State of Michigan, 61 Fed. Reg. 14,522 (1996) (detailing the requisite elements and analysis to establish attainment).

[28] EPA reported a general improvement in ozone levels over the ten-year period ending in 1993 when the agency "meteorologically adjusted" the data to "smooth out" the particularly bad ozone season in 1988. 1993 EPA TRENDS REPORT, *supra* note 12, at 43. EPA subsequently reported that 1994 was the second best year in the preceding ten years for compliance with the ozone NAAQS. *See* 1994 EPA TRENDS BROCHURE, *supra* note 17.

[29] *See, e.g.*, Bob Wyss, *Ozone Alert May Mean Bad News for Drivers*, PROVIDENCE, July 20, 1995, at 1A. Like many other areas, Rhode Island had petitioned EPA to designate the state as in attainment because of fortuitously low ozone readings for 1993 and 1994. *Id.* Halfway through the 1995 ozone season, the state's petition was moot because of multiple ozone violations. *Id.*

[30] The Pittsburgh area was on the verge of attainment, but 17 ozone violations during 1995

CAA have argued that Congress unduly skewed the statute because of the heat wave and pollution crisis of the summer of 1988.[31] The summer of 1995 demonstrated that 1988 was not merely a rare aberration like the proverbial "hundred year flood" and that the country continues to have a serious ozone transport problem.[32]

As both the number and extent of violations of the ozone NAAQS increase, an ever larger percentage of the population of the country endures exposure to unhealthy levels of ozone on a regular basis.[33] Moreover, recent studies suggest that the current ozone NAAQS may be too permissive to protect human health, particularly for individuals already suffering from an impaired ability to breathe or individuals

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means that EPA will likely redesignate it as serious nonattainment instead. *See* Sharon Voas, *High Ozone To Affect Car-Pollution Planning*, PITT. POST-GAZETTE, Sept. 10, 1995, at B3. Pittsburgh businesses are particularly concerned with the impact of more stringent controls that would result from an increased nonattainment classification. *See* Karen Kovatch, *State's Strategy to Reduce Ozone Still Up In the Air*, PITT. TIMES, July 1, 1996, at 13.

[31] One bill in Congress actually proposes an amendment to the CAA to include a congressional finding that 1988 was a "climatological anomaly" and to specify that exclusion of 1988 data changes a number of key calculations. *See* H.R. 46, 104th Cong., 1st Sess. (1995). Another bill similarly proposes to designate 1995 a climatological anomaly and to instruct EPA to disregard the 1995 data in connection with consideration of areas for redesignation to attainment. *See* H.R. 3446, 104th Cong., 2d Sess. § 109 (1996). EPA noted a similar "climatological anomaly" in 1983 and it is likely that they recur on a cyclical basis. *See* RETHINKING OZONE, *supra* note 1, at 4. At some point, elimination of all years with inconvenient data will prove counterproductive.

[32] A report issued by the conservative Cato Institute was highly critical of the 1990 CAA because it based nonattainment status on data including the "anomalous meteorological conditions of 1988." *See Cato Institute Urges Overhaul of CAA to Align Policy With Regulatory Need*, Air Water Pollution Rep. (Info. Access Co.) No. 33 (July 24, 1995). It claims that 1988–90 data rendered 38 areas in the Northeast OTR as nonattainment, whereas 1992–94 data would render only 13 of these areas as nonattainment. *Id.* Data shopping for outcome-determinative years is unwise and ignores meteorological cycles. Rather than omitting years with data inconsistent with the policy preferences of the analyst, it might be preferable to include a longer span of years in the nonattainment calculation to obtain a more statistically accurate determination. One bill introduced in Congress proposes an amendment that would require EPA to make attainment determinations by looking at data for five consecutive years and dropping out the years with the highest and lowest number of exceedences of the ozone NAAQS. *See* H.R. 3446, 104th Cong., 2d Sess. § 107 (1996). Such an approach lengthened to account for weather cycles might alleviate truly anomalous years and discourage data shopping, but states are unlikely to want EPA to scrutinize data for a decade before granting redesignation.

[33] EPA reported in 1993 that approximately 51 million people lived in counties that violated the ozone NAAQS in 1993. *See* 1993 EPA TRENDS REPORT, *supra* note 12, at 96. EPA qualified this figure by noting that it only takes into account the counties that have ozone monitors and reflects only one year's data. *Id.* at 97. The actual number exposed to high level ozone may be higher. *See id.* at 96. EPA's 1994 estimate was that 50 million people lived in areas with air that violated the ozone NAAQS. *See* 1994 EPA TRENDS BROCHURE, *supra* note 17. As a comparison, EPA estimated that 112 million people lived in counties that violated the ozone NAAQS in 1988 alone. *See* 1993 EPA TRENDS REPORT, *supra* note 12, at 96. EPA has not yet issued its report for 1995.

who exercise or work outdoors.[34] The true percentage of the population endangered by ozone may well be higher than currently recognized.[35]

EPA is currently considering changing the ozone NAAQS.[36] An independent scientific review committee has examined the available data and recommended that EPA modify the standard to provide a more adequate margin of safety, especially given the effects of long-term exposure to ozone not currently addressed by the standard.[37] The exact nature and degree of modification to the ozone NAAQS EPA decides upon will have far reaching impacts.[38] If EPA lowers the ozone NAAQS to reflect a more conservative standard for the pollutant to provide greater protection, one could assume that the number of violations would increase in many areas in the Northeast OTR.[39]

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[34] As noted above, the current federal standards permit a peak of 0.12 ppm of ozone for a one hour period once per year. *See* RETHINKING OZONE, *supra* note 1, at 68. Studies suggest that this level should be 0.08 ppm or lower in order to provide an adequate margin of safety. *See* Timothy B. Wheeler, *Smog Risk Greater Than Believed*, BALT. SUN, Mar. 5, 1995, at 1C. Some experts believe that the level should be lower still to reflect the potential harm of long-term or continuous exposure to lower concentrations of ozone that may have a cumulative adverse effect. *See id.*

[35] The American Lung Association argues that 60% of Americans suffer exposure to unhealthy ozone levels and that EPA should lower the ozone NAAQS by 40%. *See* Jim Nichols, *Outcry Against Ozone Hasn't Vanished in the Air; Ohio Still Too Lax on Smog, U.S. EPA Says*, CLEV. PLAIN DEALER, Feb. 25, 1996, at 1B.

[36] *See* Advance Notice of Proposed Rulemaking, National Ambient Air Quality Standards for Ozone or Particulate Matter, 61 Fed. Reg. 29,719 (1996) (to be codified at 40 C.F.R. § 50) (proposed June 12, 1996) [hereinafter *Ozone NAAQS Proposal*]. EPA has proposed changing the standard to lengthen the average concentration period from one hour to eight, to lower the standard ppm, to alter the number of exceedences permitted in a year, and to change the weighing of monitoring data to reflect population density or other factors. *Id.* at 29,721–22. EPA plans to issue proposed decisions on the ozone NAAQS by November, 1996, and to take final action by June, 1997. *See Ozone Proposal Headed To OMB in August: Industry Concerned About Level of Input*, Env't Rep. (BNA) No. 26, at 591 (July 29, 1996).

[37] *Ozone NAAQS Proposal* at 29,271. The Clean Air Scientific Advisory Committee (CASAC) unanimously recommended the switch from a one-hour standard to an eight-hour standard and all members recommended a reduction of the concentration of ozone from .12 ppm to somewhere in the range of .07 to .09 ppm. *Id.* Significantly, CASAC noted that there was no true "safe" level of ozone because it "may elicit a continuum of biological responses down to background concentrations." *Id.* The question thus becomes one of balancing the risks against the difficulties of reducing the ambient concentration level.

[38] Representative Waxman has expressed concern that certain changes in the standard would transform nonattainment areas into attainment areas without achieving any emission reductions, thereby meeting the goals of the 1990 CAA only by moving the goalposts. *See Cost/Benefit Analysis Not Needed For Setting Health-Based Ozone Standards, EPA Official Says*, Env't Rep. (BNA) No. 26, at 1203–04 (Nov. 17, 1995).

[39] A Harvard School of Public Health researcher concluded that the proper ozone NAAQS should be either 0.10 or even 0.08 ppm rather than the current 0.12 ppm. *See* David L. Chandler,

This increase in violations probably would create a concomitant increase in the number of nonattainment areas and an increase in the statutorily defined level of nonattainment in many areas.[40]

Despite the emerging ozone crisis recognized by lawmakers, scientists, environmentalists, and others, the CAA has thus far proven an unwieldy tool to address a complex problem.[41] Among the shortcomings of the CAA is its failure to address adequately the ozone transported across state boundaries by the forces of nature.[42] It is obvious that air travels everywhere unimpeded by the man-made constructs of jurisdictional borders.[43] Paradoxically, the CAA generally treats each state as a separate unit and requires determinations regarding a state's compliance with the NAAQS as though the state were in a vacuum.[44] This approach is a result of the principle of cooperative federalism upon which Congress constructed the CAA.[45] Following

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Ozone Worries Scientists, Who Call for New Standards, BOSTON GLOBE, July 12, 1995, at 21. With regard to Boston, he estimated that this lower standard would have resulted in 50 violations of the NAAQS in the summer of 1994 rather than the six that occurred with the present standard. *Id.*

[40] For example, the Ohio EPA anticipates that nearly every area in the state would fail to attain even if EPA chooses a standard in the middle of the range under consideration. *See* Nichols, *supra* note 35. If EPA chooses the strictest standard advocated by the American Lung Association of 0.07 ppm with only one allowable exceedence per year, almost every area in the country would fail to attain. *See id.* If EPA chooses the most lenient standard under consideration, 0.09 ppm with five allowable exceedences per year, many areas currently designated as nonattainment could comply. *See id.* The American Petroleum Institute commissioned an analysis of the number of nonattainment areas there would be nationwide using various permutations of concentration level and number of allowable exceedences based upon 1993–95 data. *See Standard-Setting Process for Ozone, PM to Be Coordinated Under New EPA Process*, Env't Rep. (BNA) No. 27, at 372 (May 31, 1996). The analysis reportedly reflected a vast divergence in the number of nonattainment areas possible, e.g., 0.075 ppm with five exceedences would result in 260 nonattainment areas, whereas 0.105 ppm with three exceedences would only result in 19. *Id.* EPA rejected the analysis as misleading. *Id.*

[41] *See* Reitze, *supra* note 19, at 1612–16 (noting fundamental shortcomings of CAA to deal with air pollution in certain contexts).

[42] *See Nichols Testimony*, *supra* note 19 (stating that despite general improvement in air pollution levels, areas subject to transport "continue to experience unacceptably high levels of ground level ozone").

[43] Hence the pithy observation that "air pollutants, by their nature, do not respect political boundaries." Natural Resources Defense Council v. EPA, 478 F.2d 875, 880 (1st Cir. 1973).

[44] The notable exception, aside from § 110(a)(2)(D), is § 176A which allows states to form interstate transport regions and devise regional control strategies. 42 U.S.C. § 7506(a). Even in this scenario, however, EPA continues to assess each state's SIP as a separate plan and only insures that it contains common elements required by EPA after their request by a majority of the members of the ozone transport region. *Id.* Section 176A(c) provides that the remedy for an ozone transport commission to insure compliance by its members is a request to EPA to find a recalcitrant state's SIP inadequate to prevent transport under § 110(a)(2)(D). *Id.*

[45] Courts have described the CAA as a "bold experiment" in cooperative federalism in which

this principle, the federal government sets standards and state governments develop and implement plans to meet the standards.[46]

This fragmented approach to ozone abatement invites inconsistencies in the methods and degrees of ozone precursor control exercised by different states.[47] Moreover, conflicting economic or political objectives of different jurisdictions potentially exacerbate the level of ozone transport. For example, states have deluged EPA with requests for exemptions from required NOx control measures on the grounds that NOx reductions will result in more ozone, not less, in downwind areas.[48] Some downwind states contend that their citizens will suffer from additional ozone transport as a result of such an exemption.[49]

EPA "identifies the end to be achieved, while the states choose the particular means for realizing that end." Air Pollution Control Dist. of Jefferson County, Ky. v. EPA, 739 F.2d 1071, 1075 (6th Cir. 1984) (quoting Connecticut v. EPA, 696 F.2d 147 (2d Cir. 1982)); *see also* H.R. REP. No. 490, 101st Cong., 2d Sess. (1990), *reprinted in* II COMM. ON ENVIRONMENT AND PUBLIC WORKS, LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 3169 (Cong. Info. Serv. 1993) [hereinafter LEGISLATIVE HISTORY II].

[46] 42 U.S.C. § 7407. An EPA official describes the approach as a "partnership" in which states choose the methods best suited to their circumstances to meet statutory objectives of the 1990 CAA and the federal government provides national standards. Among the reasons for federal involvement are: (i) protection of the health of all citizens at a minimum level; (ii) avoidance of 50 separate standards to hamper industry; (iii) avoidance of interstate transport; and (iv) prevention of a "race to the bottom" among states seeking competitive advantage at the expense of public health. *See Nichols Testimony*, *supra* note 19.

[47] Consider, for example, the diametrically opposed philosophies of Virginia and Massachusetts. Massachusetts, a victim of transport, has embraced control measures such as Ozone Transport Commission Low Emissions Vehicle (OTC LEV). Virginia, the likely source of some of ozone transport, has battled EPA on numerous issues and even disputes the constitutionality of OTC LEV. *See* Virginia v. EPA, Case Nos. 95–1163, 95–1177, & 95–1180, at 30-31 (D.C. Cir. filed Mar. 14, 1995).

[48] A dilemma has arisen with the regulation of ozone because studies have suggested that CAA-mandated reductions in NOx may increase the production of ozone under certain conditions. *See Air Pollution: State Requests For NOx Waivers Should Be Denied, Environmentalists Say*, Env't Rep. (BNA) No. 25, at 684 (Sept. 9, 1994). EPA has granted a number of these waivers grudgingly. *See, e.g., Lake Michigan NOx Waiver*, *supra* note 16. Section 182(f)(2) of the CAA obligates EPA to consider waivers of the NOx control measures after a determination that air quality may improve without the measures. 42 U.S.C. § 7511a(f)(2).

[49] *See Air Pollution: New York Challenges EPA's Exemptions to NOx Requirements for Parts of Midwest*, Daily Env't Rep. (BNA) No. 60, at D–19 (Mar. 28, 1996) [hereinafter *New York Challenges*]. EPA granted a NOx waiver for the Chicago area, and the State of New York has sued EPA to reverse the waiver. EPA explicitly stated that the waiver was contingent until it receives additional modeling data to address the ozone transport impacts of the waiver upon the downwind areas, at which point the Agency may exercise its authority under Section 110(a)(2)(D) to require NOx emission controls to halt significant contribution of ozone to other jurisdictions. *See id.* New York contends that EPA should exercise that statutory authority immediately and "should not even be considering exemptions" until the Ozone Transport Assessment Group has made its recommendations for regional ozone controls. *See N.Y. Lawsuit*

Over the last three decades, Congress has gradually strengthened the CAA to address interstate transport of criteria pollutants in general and ozone in particular.[50] In the last three revisions of the CAA, Congress has given EPA an increasingly central role in regulating interstate transport by modifying the statutory standards for EPA's review of state implementation plans (SIPs).[51] Congress still has not, however, addressed the underlying fundamental questions of how to apportion the nation's air resources among states in the context of air pollutant transport prevention.[52] The statute thus does not clearly indicate how EPA should resolve transport disputes. Because EPA oversees the development of SIPs for all states, EPA must implement the provisions of the CAA to prevent ozone transport in accordance with an incomplete statutory mandate.

EPA's implementation of the current CAA ozone transport provisions has roused criticism from many quarters. Industry often complains that the statute imposes unreasonable burdens and interferes with competitiveness.[53] Environmental groups contend that EPA has not interpreted and enforced the transport provisions aggressively enough.[54] Some states assert that the statute unconstitutionally

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Against Midwest NOx Filed Despite Contingency of EPA's Waivers, 1996 Util. Env't Rep. (McGraw-Hill) 9 (April 26, 1996).

[50] *See infra* Section II, regarding evolving SIP review requirements.

[51] 42 U.S.C. § 7410. The SIP contains the detailed program of state laws that each state devises to comply with the CAA within the state or separate areas of the state. *See id.* § 7410(a).

[52] *See generally* Marc Alan Silverstein, *Interstate Ozone Pollution: Unresolved Issues*, 3 HARV. ENVTL. L. REV. 291 (1979).

[53] For example, the automobile manufacturing industry has adamantly opposed the Northeast OTC LEV program approved by EPA. Industry claims that the program will force them to sell "advanced technology vehicles to an unwilling market" that will hurt their sales and ultimately consumers. *See Petition to Bring CAL LEV to Northeast Approved by EPA, but Talks Continue*, Daily Env't Rep. (BNA) No. 242, at D-3 (Dec. 20, 1994). Oil companies complain that the reformulated fuel requirement causes economic and competitive disadvantages, especially when EPA waffles on allowing areas to opt out of the program and forces the industry to absorb the costs. *See* Allanna Sullivan, *Reformulated Fuel Pumping Up Gas Prices*, CHI. TRIB., Sept. 3, 1995, Transportation Section, at 2. The electric power industry and the coal industry have vigorously opposed additional NOx emission controls for midwestern power plants to benefit the states of the Northeast OTR because the cost of additional controls would render them less competitive in the open market for electric power. *See, e.g.*, Julie R. Cryser, *Ozone: Pressure From Northeastern States to Reduce Pollution From Outside the Region Could Have Economic Repercussions in West Virginia*, CHARLESTON SUNDAY GAZETTE MAIL, Aug. 4, 1996, at P1B (quoting power industry officials critical of the Northeast OTC for "passing the ozone buck"). The utility industries in the Northeast OTR are demanding additional emissions controls for their midwestern and southern cohorts to prevent unfair competition by generators who do not have to bear the same costs for pollution controls. *See* Eric Niiler, *Energy Deregulation Brings Fears of Wind-borne Pollution*, PATRIOT-LEDGER (Quincy, MA), Mar. 22, 1996, at 7.

[54] *See, e.g.*, Conservation Law Found. v. Browner, No. 94-1692 (D.C. Cir. filed Oct. 31, 1994) (challenging the agency's overwhelming transport policy).

usurps state powers.[55] Citizens are vehemently opposed to some control measures mandated by the CAA to reduce ozone precursors and ozone transport.[56] Amid this criticism, EPA must act in accordance with the provisions of the statute or, in the case of statutory ambiguity, divine congressional intent from sources other than the statute.[57] EPA has striven to implement the CAA "flexibly" to accommodate the more conservative and less conservationist political atmosphere of Washington resulting from the November, 1994, congressional elections.[58] Given the recent calls in Congress to amend the CAA or to

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[55] A number of states contend that the creation of the Northeast OTR pursuant to CAA § 184 was unconstitutional because: (i) it creates a form of regional government without the consent of the states; (ii) it infringes on the right of a state to choose its own method to elect its representative; (iii) it creates an impermissible distinction between the affected states and all other states; and (iv) it subjects the citizens of the affected states to economic disadvantages. *See Attorneys Say LEV Section of CAA Could Face Constitutional Challenge*, INSIDE EPA, Dec. 22, 1994, at 1. Virginia officials initially threatened to oppose the OTC LEV program because they wanted a new vote taken after the November, 1994, election of additional Republican governors, whom they expected to vote against the measure. *See* Gary Lee, *EPA Approves Plan for New Class of Low-Polluting Cars in Northeast*, WASH. POST, Dec. 20, 1994, at A4. Virginia subsequently filed suit challenging the constitutionality of the Northeast OTC and its actions including OTC LEV. The suit is pending before the District of Columbia Circuit. *See* Virginia v. EPA, Nos. 95–1163, 95–1177, & 95–1180 (D.C. Cir. filed Mar. 14, 1995). Other observers have explored the constitutional issues more fully. *See generally* Daniel B. Trinkle, Comment, *Cars, Congress, and Clean Air for the Northeast: A Separation of Powers Analysis of the Ozone Transport Commission*, 23 B.C. ENVTL. AFF. L. REV. 169 (1995) (considering the OTC and OTC LEV constitutional because they are not in violation of either the Appointments Clause or the nondelegation doctrine); Gordon C. Wilson, Note, *Limitations on Congressional Power to Establish Interstate Mechanisms of Governance: The Unconstitutionality of the Ozone Transportation Region Created Under Section 184 of the Clean Air Act*, 11 J.L. & POL. 381, 409–10 (1995) (declaring Section 184 unconstitutional for violating the Appointments Clause and the Compact Clause).

[56] *See, e.g.*, Timothy Aeppel, *Not in My Garage: Clean Air Act Triggers Backlash as Its Focus Shifts to Driving Habits*, WALL ST. J., Jan. 25, 1995, at A1. The article notes a Pennsylvania grassroots rebellion against "everything from having to use gasoline nozzles designed to catch excess fuel vapors to buying reformulated gasoline" and a feeling that "cars have emerged right up there with guns as a 'Constitutional Right.'" *Id.* The attitude is reminiscent of the 19th century "Whiskey Rebellion" in which western Pennsylvanians opposed unpopular laws by force.

[57] *See, e.g.*, Environmental Defense Fund v. EPA, 82 F.3d 451, 467 (D.C. Cir. 1996) (applying the *Chevron* analysis to EPA's interpretations of various provisions of the 1990 CAA).

[58] EPA's desire to avoid bureaucratic fiats is reflected in rules that encourage states to develop alternative means to obtain emissions reductions. *See* Final Rule of Ozone Transport Commission; Low Emission Vehicle Program for the Northeast Ozone Transport Region, 60 Fed. Reg. 4712, 4713 (1995) [hereinafter *OTC LEV Final Rule*]. The Agency has signaled that it is amenable to flexible approaches where possible. For example, EPA officials have met with representatives of the states to hear recommendations which ranged from a moratorium on sanctions for states acting in good faith to an alternative to enhanced inspection and maintenance requirements. *See Moratorium on Clean Air Sanctions Among Many EPA Actions Sought by States*, Daily Env't Rep. (BNA) No. 14, at D–4 (Jan. 23, 1995). EPA has followed through on the recommendations by providing for less stringent automobile inspection and

shackle EPA, a reexamination of the ozone transport provisions is now appropriate.[59]

This paper will first discuss the efforts by Congress and EPA to address interstate air pollutant transport under the CAA up to and including the 1990 Amendments.[60] Second, it will illustrate how the current CAA imposes anomalous results upon states subject to ozone transport. Third, this paper will explore some recent EPA efforts to moderate harsh effects of the ozone transport provisions upon states. Fourth, it will describe some bills currently before Congress that address directly the problem of ozone transport and its ramifications for states. Finally, this paper will argue that Congress could amend the 1990 CAA to rectify statutory and implementation problems for downwind states, yet continue to encourage expeditious attainment of the NAAQS. Specifically, this paper will suggest that downwind states need three forms of statutory relief: (i) alleviation of the draconian punishment for being merely the recipient of ozone from upwind states; (ii) creation of a meaningful mechanism to initiate prompt EPA action against upwind states that do not cooperate to control ozone transport across state or regional borders; and (iii) clarification that Section 110(a)(2)(D) authorizes EPA to force states to reduce ozone precursor emissions below the level of the NAAQS if necessary to prevent transport.

On the latter point, this paper will argue that Congress should either provide clearer instructions and guidance to EPA concerning how the agency should allocate air resources or should state unequivocally that EPA has explicit authority to devise and implement the proper resource allocation formula. Without clearer guidance in the CAA, the ozone transport problem will follow the paradigm of the tragedy of the commons, in which self-interested users ruin shared

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maintenance programs in qualified areas of the Northeast OTR. *See* Supplemental Final Rule, Inspection/Maintenance Flexibility Amendments (Ozone Transport Region), 61 Fed. Reg. 39,032 (1996).

[59] Dissatisfaction with the CAA has led some members of Congress to propose amendments that range from mere technical alterations to outright repeal of the CAA. *See infra* Section V. Other members have attempted to preclude enforcement of the CAA through appropriations bill riders that prohibit EPA from spending funds for designated programs. *See* Gary Lee, *House Panel Signals Assault on EPA Initiatives*, WASH. POST, July 14, 1995, at A19; *Air Pollution: Controversial Air Act Programs Would Be Weakened by House Bill Riders*, Daily Env't Rep. (BNA) No. 133, at D–18 (July 12, 1995).

[60] This paper will focus on the CAA transport provisions as they impact nonattainment and maintenance areas as opposed to the impacts on areas that already attain, treated as "prevention of significant deterioration" or "PSD" areas. *See* 42 U.S.C. §§ 7470–7479.

resources like the ambient air because they do not suffer the full consequences of their actions.[61] Overall, this paper will suggest the futility of continued treatment of state borders as legal fences against transport, and the need for states of the Northeast OTR and elsewhere to cooperate to resolve transport issues.

II. Ozone Transport under the CAA

The vexing problem of interstate pollution provided one of the most compelling arguments in favor of federal regulation of pollution rather than continued state and local control of the issue.[62] The pernicious effects of cross-boundary pollution and the failure of common law remedies to resolve disputes among neighboring states prompted Congress to intervene under the commerce clause power of the U.S. Constitution.[63] Three decades later, the issue that originally motivated Congress to enact federal pollution statutes remains largely unresolved.[64] Congress has grappled with pollution transport through three revisions of the CAA in 1970, 1977, and 1990. The successive amendments and EPA's implementation of the provisions illustrate some of the intransigent problems inherent in attempts to remedy ozone transport and suggest areas for further improvement.

A. *The 1970 Clean Air Act*

Prior to the 1970 CAA, Congress addressed the issue of cross-boundary pollution or pollution transport through the mechanism of interstate conferences.[65] Congress contemplated that states sharing a

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[61] The famous explanation of this behavioral phenomenon concerned unregulated grazing on the town common that resulted in the ultimate ruin of the common because each grazier could profit by adding cattle without bearing the full cost of damage to the common. *See* Garrett Hardin, *The Tragedy of the Commons*, 162 Science 1243, 1244–45 (1968), *reprinted in* Richard B. Stewart & James E. Krier, Environmental Law and Policy 68 (2d ed. 1978).

[62] *See generally* Sidney Edelman, *Federal Air and Water Control: The Application of the Commerce Power to Abate Interstate and Intrastate Pollution*, 33 Geo. Wash. L. Rev. 1067 (1965) (setting forth the argument that when pollution crosses state borders and state controls are ineffective, the federal government should intervene).

[63] *See generally* Bruce M. Kramer, *Transboundary Air Pollution and the Clean Air Act: An Historical Perspective*, 32 Kan. L. Rev. 181 (1983). The first provision of the CAA continues to harken back to this basis for federal regulation in its finding that most Americans live in metropolitan areas that straddle state and local boundaries and, by extension, need protection in the form of federal antipollution legislation. 42 U.S.C. § 7401(a)(1).

[64] Far from a nostalgic memory, interstate pollution disputes remain a prominent source of interstate friction. *See, e.g., New York Challenges*, *supra* note 49.

[65] *See* Kramer, *supra* note 63, at 187.

common border with significant transboundary pollution would voluntarily engage in conferences in which they ostensibly would sort out such problems among themselves.[66] The federal government's involvement consisted primarily of mediation and facilitation. If the parties could not reach agreement, the federal government could itself seek to abate the interstate pollution in federal court.[67] The conference system proved cumbersome and ineffective to resolve the thorny technological, economic, and political issues of pollution abatement between states.[68]

In the 1970 CAA,[69] Congress directed EPA to take a more active role in the regulation of interstate pollution.[70] The 1970 CAA required each state to generate a SIP in which the state had to specify the enforceable pollution control measures it would undertake to reduce emissions and comply with the NAAQS.[71] The statute instructed EPA to approve a state's SIP if it contained certain minimum required plan elements designed to help the state attain the NAAQS. Section 110(a)(2)(E) of the 1970 CAA directed EPA to approve a SIP if, among other things, it included provisions for "intergovernmental cooperation" to counter transported pollutants that might "interfere" with attainment or maintenance of the NAAQS in other jurisdictions.[72]

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[66] Under the 1963 CAA, the Secretary of Health, Education, and Welfare (HEW) could call a conference among the relevant state and local pollution control agencies in the affected states to consider cooperative means to abate interstate pollution. 42 U.S.C. § 1857d(b) (1976) (repealed 1977).

[67] If the parties did not take adequate steps to protect the health and welfare of citizens of other states, the 1963 CAA empowered the Secretary of HEW to request the Attorney General to bring an action on behalf of the federal government against the polluter to abate the interstate element of the pollution. 42 U.S.C. § 1857d(g)(1) (1976) (repealed 1977).

[68] The abysmal results are chronicled by commentators. *See generally* Carl J. Debevec et al., Comment, *Air Pollution in the Marietta-Parkersburg Area—A Case History*, 32 OHIO ST. L. J. 58 (1971); *see also* Kramer, *supra* note 63, at 187, 189 & n.59, 190.

[69] Clean Air Act Amendments of 1970, Pub. L. No. 91–604, 84 Stat. 1676 (codified in various sections of 42 U.S.C.).

[70] As noted by the United States Supreme Court, the 1970 CAA "reflect[ed] congressional dissatisfaction with the progress of existing air pollution programs and a determination to 'tak[e] a stick to the states' in order to guarantee the prompt attainment and maintenance of specified air quality standards." Union Elec. Co. v. EPA, 427 U.S. 246, 249 (1976) (quoting Train v. Natural Resources Defense Council, 421 U.S. 60, 64 (1975)).

[71] The SIP remains an integral part of the CAA. *See generally* 42 U.S.C. § 7410.

[72] The Section provided, inter alia, that SIPs include "provisions for intergovernmental cooperation, including measures necessary to insure that emissions of air pollutants from sources located in any air quality control region will not interfere with the attainment or maintenance of such primary or secondary standard" in any other jurisdiction. Clean Air Act Amendments of 1970, Pub. L. No. 91–604, 84 Stat. 1676 (current version at 42 U.S.C. § 7410(a)(2)(D)).

The statute expressly instructed states to take the necessary measures to "insure" against the effects of transported pollutants on neighboring states, albeit indirectly through EPA's SIP approval process.[73] EPA interpreted the statute's exhortation less aggressively. The agency concluded that Congress merely intended to foster interstate cooperation through the exchange of information and did not intend to require a state to halt emissions at the insistence of a neighboring state.[74] EPA therefore promulgated a regulation that only required each state to agree in its SIP to share information on "factors" that might affect the air quality of other states.[75] Like earlier attempts to control air pollution through interstate cooperation, this approach relied upon a degree of altruism among states.[76]

Environmental groups disputed EPA's interpretation of the statute and attempted to compel EPA to enforce Section 110 to abate interstate pollution. The Natural Resources Defense Council (NRDC) formally challenged EPA's position in connection with the approval of a SIP for Iowa.[77] NRDC argued that the requirement of an interstate information exchange was inadequate to prevent interstate pollution that interfered with attainment or maintenance in other jurisdictions in contravention of the statute.[78] NRDC further contended that the mere exchange of information would not substitute for binding interstate agreements or compacts to abate transboundary emissions.[79]

A federal appellate court rejected NRDC's position, holding that the information exchange was a legitimate means to attain "intergovernmental cooperation" as contemplated by Congress in the statute.[80] Possession of the information, the court reasoned, would enable states

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[73] *Id.*

[74] Commentators described EPA's regulatory response as "trifling." *See* Kenneth L. Hirsch & Steven Abramovitz, *Clearing the Air: Some Legal Aspects of Interstate Air Pollution Problems*, 18 DUQ. L. REV. 53, 68 (1979).

[75] The regulation provided that:

> Each plan shall provide assurances that the State agency having primary responsibility for implementing national standards in any region, or portion thereof, will promptly transmit to other State agencies having similar or related responsibility in the same or other States, information on factors (e.g., construction of new industrial plants) which may significantly affect air quality in any portion of such region or in any adjoining region.

40 C.F.R. § 51.21(c) (1977) (superseded).

[76] *See supra* notes 66–68 and accompanying text.

[77] Natural Resources Defense Council v. EPA, 483 F.2d 690, 690 (8th Cir. 1973).

[78] *Id.* at 692.

[79] *Id.*

[80] *Id.*

to develop their respective SIPs to address interstate pollution. Even if other means might be more effective, the court relied on the fundamental tenet of administrative law that the agency acting within the scope of its statutory authority had discretion to determine "what degree of governmental cooperation and other measures are necessary to insure noninterference with the attainment and maintenance of national standards."[81]

The NRDC case illuminates three continuing debates in transport policy: (i) the degree to which EPA should control the resolution of disputes between states; (ii) the degree to which upwind and downwind states should bear responsibility for their neighbor's air quality; and (iii) the degree to which the CAA should require states to work together to resolve common problems. The first issue concerns the appropriate extent of EPA's role in transport disputes. Congress based the CAA on the principle of cooperative federalism, i.e., the federal government sets minimum standards and the state governments enact local laws to implement those standards.[82] The inevitable tension between federal and state power generates disputes as to the proper sphere of influence of each sovereign in transport scenarios.[83] At one extreme, EPA could dictate solutions to each state through the SIP process. At the other end of the spectrum, EPA could merely act as a disinterested mediator between states. The CAA contains a fundamental dichotomy because the states ostensibly set their own policies to meet national objectives, yet EPA is the final arbiter of appropriate policies.[84] Because of this structure, some critics believe that Congress intends EPA to take a more proactive role.[85] Others believe that EPA should let states resolve transport issues.[86] This

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[81] *Id.* at 692–93.

[82] *See generally* 42 U.S.C. § 7401.

[83] *See, e.g., Prepared Testimony By the Honorable Becky Norton Dunlop, Secretary of Natural Resources, Commonwealth of Virginia, Before the House Budget Committee*, Cong. Hearing Testimonies (Fed. News Serv.), at 1 (Mar. 5, 1996) (invoking Jefferson, Madison, and Patrick Henry to criticize the "Big Nanny central government" and stating that "there is scarcely any human activity—with the possible exception of daydreaming—that the central government does not attempt to manage, to regulate, in a word to control").

[84] *See* 42 U.S.C. § 7410.

[85] *See, e.g.*, Petitioners' Motion for Expedited Review at 1, Conservation Law Found. v. Browner (D.C. Cir. 1994) (No. 94–1692) (challenging the EPA policy of allowing states subject to transport to provide SIP attainment demonstrations over time rather than by the statutory deadline).

[86] *See, e.g., infra* notes 331–32 and accompanying text (discussing suggestions that states may gerrymander their nonattainment area boundaries or move ambient air quality monitors as they deem appropriate); *see also EPA: Browner Tells NCSL Money Cut, State Standard Setting Not*

issue was at the heart of the NRDC suit challenging the agency interpretation of the 1970 CAA, and the issue remains a central theme in ozone transport disputes.[87]

Another recurring motif of transport policy is the tension between the rights of upwind and downwind states. The 1970 CAA placed EPA in an untenable position. Section 110(a)(2)(E) provided that EPA was to approve SIPs with necessary measures to avoid interference with attainment or maintenance of the NAAQS in another area.[88] The 1970 CAA did not, however, explain what would constitute such interference or what might comprise necessary measures to prevent it in any given situation. It was unclear, for example, whether EPA was to allow an upwind jurisdiction to emit any amount of ozone precursors if it would prevent the downwind state from using the full "quota" of emissions represented by the NAAQS.[89] Congress sidestepped the divisive political decisions regarding allocation of limited air resources between states, and put EPA in the difficult position of arbiter of the relative rights of upwind and downwind jurisdictions. How upwind and downwind states should share finite air resources remains a difficult and largely unaddressed question.[90] EPA continues to bear primary responsibility for resolving disputes concerning the allocation of air resources.

The third perennial issue concerns the proper format for state cooperation to solve shared transport problems. At the time of the 1970 CAA, the statute created a mechanism for states to meet voluntarily to hammer out solutions between one another. EPA's role through the SIP process was only to insure that states provided for intergovernmental cooperation. Critics suggested that stronger

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Good Combo, Env't Rep. (BNA) No. 137, at D–19 (July 18, 1995) (predicting 50 different standards, chaos, and responsible states at the mercy of irresponsible states).

[87] *See supra* notes 49 & 55. The dispute continues unabated. For example, New York has sued EPA for not doing enough to prevent transport, even as Virginia presses its claims that EPA has exceeded its authority. *Id.*

[88] Clean Air Act Amendments of 1970, Pub. L. No. 91–604, § 110(a)(2)(E), 84 Stat. 1676, 1681 (1970).

[89] *See id.* This view of the NAAQS as a guaranteed quota for emissions has potentially mischievous effects and is inconsistent with certain aspects of the CAA. For example, in the 1990 CAA Congress imposed region-wide control measures within the Northeast OTR and thereby impinged on the ostensible "quotas" of attainment areas in the transport region for the benefit of nonattainment areas. This contradicts the assertion that Congress intended the NAAQS as a right to emit that amount of a pollutant without regard to its effects elsewhere. 42 U.S.C. § 7407.

[90] *See infra* note 475 and accompanying text (discussing current legislative initiatives to factor out upwind state contributions to downwind state nonattainment).

measures such as binding agreements or compacts were necessary to stop transport.[91] Congress has subsequently sought means to require greater interstate cohesiveness among adjacent states.[92] The degree to which the CAA should obligate states to work together is an issue of continuing concern.[93]

EPA's interpretation of Section 110(a)(2)(E) under the 1970 CAA effectively transferred to the states the duty to resolve interstate transport disputes. After judicial approval of its interpretation of the statute, EPA continued to implement its authority under the Section as though it was merely to encourage states to resolve transport problems along lines comparable to the discredited conference method.

B. *The 1977 Clean Air Act*

In the 1977 CAA,[94] Congress attempted to correct the agency and judicial interpretation of Section 110(a)(2)(E)[95] by amending the statute to provide that SIPs must include provisions prohibiting state sources from interfering with attainment or maintenance of NAAQS in any other jurisdictions.[96] In addition, Congress added a new Section 126 that empowered states to petition EPA for a finding that a major source in another state emitted or would have emitted a transported air pollutant in violation of Section 110(a)(2)(E).[97] Upon such a finding,

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[91] *See* Hirsch & Abramovitz, *supra* note 74, at 98–102.

[92] *See infra* notes 162–63 and accompanying text (discussing Northeast OTR).

[93] *See, e.g.*, Trinkle, *supra* note 55, at 169; Wilson, *supra* note 55, at 409–10; *Attorneys Say LEV Section of CAA Could Face Constitutional Challenge*, INSIDE EPA, Dec. 22, 1994, at 1; Lee, *supra* note 55 (discussing the dissatisfaction of states in the Northeast OTR that allege that the CAA is unconstitutional).

[94] Clean Air Act Amendments of 1977, Pub. L. No. 95–95, 91 Stat. 685 (1977) (codified as amended at 42 U.S.C. §§ 7401–7642).

[95] Congress was critical of the 1970 CAA as "an inadequate answer to the problem of interstate air pollution." H.R. REP. No. 294, 95th Cong., 1st Sess. 330 (1977), *reprinted in* 1977 U.S.C.C.A.N. 1077, 1409.

[96] The 1977 CAA provided in pertinent part that SIPs must have provisions "prohibiting any stationary source within the State from emitting any air pollutant in amounts which will . . . prevent attainment or maintenance by any other State of any . . . national . . . ambient air quality standard." Clean Air Act Amendments of 1977, Pub. L. No. 95–95, § 108, 91 Stat. at 693.

[97] Section 126 of the 1977 CAA provided in part:

> (a) Each applicable implementation plan shall—
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> (1) require each major proposed new (or modified) source—
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> (A) subject to part C (relating to significant deterioration of air quality) or
>
> (B) which may significantly contribute to levels of air pollution in excess of the national ambient air quality standards in any air quality control region outside the State in which such source intends to locate (or make such modification),

Section 126 authorized EPA to restrict or stop the emissions from certain existing sources or to forbid construction of new or modified sources.[98] Both provisions gave EPA additional tools to force states to remedy cross-boundary transport of pollutants, but the limitations of the provisions overwhelmed the benefits.[99]

The 1977 amendments to Section 110(a)(2)(E) expressly expanded EPA's authority to disapprove a SIP for failure to limit emissions that interfered with attainment or maintenance in another state. Whereas the 1970 CAA version of the Section merely instructed EPA vaguely to insure that there were provisions to avoid interference with downwind attainment or maintenance, the 1977 CAA directed EPA to approve a SIP only if there were specific prohibitions to prevent such emissions. The distinction is subtle, but it reflected a greater concern that one state not adversely affect another.

The limitations of Section 110(a)(2)(E), however, rendered it ineffective as a mechanism to address ozone transport. First, Section 110(a)(2)(E) omitted clear standards or directives to EPA regarding the amount of emissions that would constitute a violation of the provision.[100] The statute required EPA to insure that the SIP had adequate measures to "prevent" nonattainment, but it provided no guidance as to the meaning of this term.[101] It was unclear whether a violation would occur only if the upwind state sent the downwind state air that already violated the NAAQS or if the upwind state sent the downwind state any amount of ozone that contributed to nonattainment.[102] Commentators noted that a literal reading would inevita-

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to provide written notice to all nearby States the air pollution levels of which may be affected by such source at least sixty days prior to the date on which commencement of construction is to be permitted by the State providing notice, and

(2) identify all major existing stationary sources which may have the impact described in paragraph (1) with respect to new or modified sources and provide notice to all nearby States of the identity of such sources not later than three months after the date of enactment of the Clean Air Amendments of 1977.

(b) Any State or political subdivision may petition the Administrator for a finding that any major source emits or would emit any air pollutant in violation of the prohibition of Section 110(a)(2)(E)(i).

Clean Air Act Amendments of 1977, Pub. L. No. 95–95, § 126, 91 Stat. at 724.

[98] *Id.*

[99] *See* Kramer, *supra* note 63, at 195–97.

[100] *See* Air Pollution Control Dist. of Jefferson County, Ky. v. EPA, 739 F.2d 1071, 1076 (6th Cir. 1984) (lamenting that neither the statute nor the legislative history defines when an emission in one state will "interfere" with attainment in another).

[101] *See* Connecticut v. EPA, 696 F.2d 147, 155–56 (2d Cir. 1982).

[102] *See* Hirsch & Abramovitz, *supra* note 74, at 67 ("[t]he statutory goal is salutary; its meaning doubtful.").

bly lead to inequities, for example, a developed downwind state with polluted air could forever block an upwind state from developing.[103] As in the 1970 CAA, Congress left the question of what degree of transport mattered and what states must do to alleviate transport to the discretion of EPA.[104] EPA filled this void by developing its policy on an ad hoc basis through the Section 126 proceedings discussed below.

Second, the provision continued to refer only to the emissions from stationary sources rather than the wider universe of sources such as mobile sources, area sources, or combined groups of sources that together might emit large amounts of transported pollutants.[105] Omission of mobile sources in particular precluded EPA from finding a violation of the provision in the event of transport of ozone precursor chemicals from automobiles, the predominant source of transported ozone in many nonattainment areas.[106] The restriction of the prohibition to individual stationary sources thus drastically curtailed the number of situations in which EPA could use Section 110(a)(2)(E) to remedy transport.

Finally, Section 110(a)(2)(E) provided no mechanism for initiation of EPA review of SIP provisions by affected states.[107] Unlike Section 126, states could not directly petition EPA under Section 110(a)(2)(E) to assess whether another state's emissions violated the SIP requirements to prevent transport. States could submit comments in connection with an agency rulemaking to approve a SIP already underway, but could not initiate that review by EPA. This left only the citizen suit provision in CAA Section 304,[108] and the right to challenge an

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[103] *See* STEWART & KRIER, *supra* note 61, at 498.

[104] *See* Kramer, *supra* note 63, at 201, 212–13. Contemporary critics of the 1977 CAA argued that "unartfully and vaguely drawn language" in § 110(a)(2)(E) and § 126 failed to address fundamental questions of interstate pollution. *See id.* at 201. Other commentators suggested that § 110(a)(2)(E) authorized EPA to make an "inquiry" into which state should restrict its emissions, based on some indeterminate factors, and approve or disapprove the SIPs accordingly. *See* DAVID P. CURRIE, AIR POLLUTION, § 4.18 at 4–50 (1981).

[105] STEWART & KRIER, *supra* note 61, at 498.

[106] *See* The Honorable Henry A. Waxman et al., *Cars, Fuels, and Clean Air: A Review of Title II of the Clean Air Act Amendments of 1990*, 21 ENVTL. L. 1947, 1950 (1991) ("mobile sources are the single most important cause of ozone pollution, the nation's most widespread air pollutant"); *see also* CATCHING OUR BREATH, *supra* note 2.

[107] *See* Timothy Talkington, *Interstate Air Pollution Abatement and the Clean Air Act Amendments of 1990: Balancing Interests*, 62 U. COLO. L. REV. 957, 964–67 (1991). A § 126 petition triggers an EPA review of the emissions impact of the sources enumerated in the petition. *See id.* A state cannot independently initiate a § 110 SIP review. *See id.*

[108] The citizen suit provision allows suits against EPA to compel performance of nondiscretionary acts or duties. *See generally* 42 U.S.C. § 7604.

agency final order as arbitrary and capricious under Section 307,[109] as possible means to direct EPA's attention to a transport problem.

As a result of these limitations, Section 110(a)(2)(E) of the 1977 CAA proved of limited utility to states. After the 1977 revisions, Connecticut attempted to stop EPA from allowing a Long Island, New York, power plant to burn high sulfur fuel.[110] Connecticut alleged that the plant's high stacks emitted sulfur dioxide and particulates that adversely affected the air quality across Long Island Sound.[111] EPA assessed Connecticut's claim through the notice and comment rulemaking process for the plant's special exemption and denied the state's requested relief.[112] Accordingly, the state challenged EPA's final rule alleging that it violated Section 110(a)(2)(E).[113]

The United States Court of Appeals for the Second Circuit explored Connecticut's varied complaints regarding EPA's approval of the New York plant's special exemption to use high sulfur fuel.[114] Although the Second Circuit was sympathetic to Connecticut and acknowledged that a key assumption of the CAA was that Congress intended to prevent one state from "foisting off" its pollution problems on other states, the court upheld EPA's decision.[115] The court readily admitted that the statutory language of Section 110(a)(2)(E) posed a dilemma. If the Agency forced an upwind state to reduce its emissions to protect a downwind state, it would potentially "hold one state hostage to another's failure to enact the pollution control strategies necessary to conform to the requirements of the [CAA]."[116] On the other hand, failure to restrict emissions from an upwind state would adversely affect the downwind state and "foreclose" its options for controlling pollution.[117] Despite recognizing the glaring statutory uncertainty in the provision, however, the court concluded that the extent of its

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[109] *See id.* § 7607(d)(9)(A). The judicial review of final rules permits any affected party to obtain judicial review of the agency's action within certain parameters. *See generally id.* § 7607.

[110] Connecticut v. EPA, 695 F.2d 147, 152 (2d Cir. 1982).

[111] *Id.* at 153–54.

[112] *Id.*

[113] *Id.*

[114] The court wryly noted that Connecticut alleged a violation of "every portion" of § 110(a)(2)(E). *Id.* at 155.

[115] Connecticut v. EPA, 696 F.2d at 164. The Second Circuit opined that "[n]o aspect of this novel attempt to establish joint state and federal responsibility is more crucial than the provisions which guarantee that air pollution generated in one state does not disrupt another state's plans for complying with the national standards." *Id.* at 151.

[116] *Id.* at 164.

[117] *Id.* at 163.

review was only to determine whether the EPA action was arbitrary and capricious, an abuse of discretion, or otherwise inconsistent with law.[118] This standard of review coupled with judicial deference to agency determinations doomed further inquiry into the merits of EPA's interpretation of the statute. Based upon the language of the provision and the facts at issue, the Second Circuit concurred with EPA's determination that a small contribution of a pollutant to another state's nonattainment was probably below the level at which Congress intended EPA to intervene.[119]

The effect of the Second Circuit's decision was to dissuade states from seeking relief under Section 110(a)(2)(E).[120] So long as the EPA interpretation of the statute was not "plainly unreasonable," states could not successfully challenge EPA's rulemaking determinations regarding the contribution necessary to constitute a violation of Section 110(a)(2)(E).[121] In this case, EPA interpreted the phrase to mean that it should approve the state's SIP variance for high sulfur fuel unless the change would actually cause a NAAQS violation in another jurisdiction.[122] EPA refined this view in other cases discussed below, but the Agency continued to refuse downwind states redress for the effects of transport on their nonattainment status.

Section 126 of the 1977 CAA likewise had significant limitations as drafted by Congress and as applied by EPA.[123] The Section ostensibly provided states with a means to combat interstate transport from neighboring jurisdictions.[124] The Section did arm states with two important rights: (i) mandatory disclosures regarding emissions from certain types of new and existing sources in neighboring states; and (ii) a means to petition EPA to investigate and rectify a particular

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[118] *Id.* at 155.

[119] *Id.* at 164. The court's foray into the thickets of science and modeling was unusual and another federal court labeled it "brave." Air Pollution Control Dist. of Jefferson County, Ky. v. EPA, 739 F.2d 1071, 1092 (6th Cir. 1984).

[120] *See* Talkington, *supra* note 107, at 966 (noting that after this decision and its progeny "it is difficult to imagine a scenario" in which a state could use § 110 and § 126 successfully).

[121] Connecticut v. EPA, 696 F.2d 147, 155 (2d Cir. 1982).

[122] *Id.* at 156.

[123] Many of these shortcomings and impending implementation problems were obvious to observers and commentators from the outset. *See, e.g.*, William V. Luneberg, *The National Quest for Clean Air 1970–1978: Intergovernmental Problems and Some Proposed Solutions*, 73 NW. U. L. REV. 397, 432–36 (1978) (predicting implementation fiascos because of the difficulties of proving the source of a given ozone molecule, the placement of the burden of emission reduction on a single upwind source, and the reliance on a case-by-case solution of a pandemic problem).

[124] *See supra* note 97 and accompanying text.

transport problem. The mandatory disclosure of information was a significant boon, given the burdens involved in discovery of this information by other means. More importantly, however, Section 126 disclosures allowed advance notice of emissions from new or modified sources, and thus a meaningful opportunity to oppose such sources prior to their construction and before political and economic momentum might preclude successful opposition. The enforcement mechanism of Section 126 allowed states to petition EPA to prohibit new or modified sources or to prohibit continued operation of existing sources after three months unless the sources agreed to reduce their emissions to eliminate the interstate effect.[125] The Section also granted states the ability to challenge emissions from upwind states promptly rather than at the next scheduled SIP revision of the upwind state.[126]

The utility of Section 126 of the 1977 CAA for downwind states to halt transport of any criteria pollutant, and especially ozone, was extremely circumscribed. The Section applied only to "major stationary sources of emissions."[127] By definition, this excluded most individual pollutant sources except power or manufacturing plants. Section 126 theoretically permitted actions based upon ozone transport,[128] but because most ozone does not derive from major source emissions, such an action could arise only in unusual circumstances.[129] The majority of

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[125] *See supra* text accompanying note 97.

[126] One commentator opined that § 126 was redundant given the review of transport impacts required by § 110 in the SIP review process. *See* Silverstein, *supra* note 52, at 294. Section 126 arguably fulfills a distinct and necessary function, however, by providing states with a right to petition EPA to consider a particular transport dispute.

[127] Clean Air Act Amendments of 1977, Pub. L. No. 95–95, 91 Stat. 685 (1977). The 1977 CAA defined "major source" to mean facilities that emitted or could emit 100 tons or more per year of any pollutant. *Id.* Section 302(j) of the 1990 CAA continues to define "major sources" as stationary sources that emit 100 tons or more per year of any air pollutant. 42 U.S.C. § 7602(j). In the case of ozone nonattainment areas, however, § 182 provides that there is a sliding scale with "major source" defined as a source with emissions of 50 tons per year in serious nonattainment areas, 25 tons per year in severe nonattainment areas, and 10 tons per year in extreme nonattainment areas. *Id.* §§ 7511(c)–7511(e). Section 302(z) defines a "stationary source" as generally anything other than mobile sources, thereby excluding automobiles. *Id.* § 7602(z).

[128] EPA has indicated that § 126 actions are available for the six criteria pollutants regulated by the CAA. *See* Interstate Pollution Abatement; Proposed Determination, 49 Fed. Reg. 34,851, 34,856–57 (1984) [hereinafter *Interstate Pollution Abatement 1984*].

[129] There are no reported decisions concerning state actions under § 126 to seek redress for transported ozone. It is doubtful whether a state could maintain such an action given the relatively small proportion of ozone precursors produced by major stationary sources and in light of the requirement that the source must significantly contribute to nonattainment. Maine has asserted its intention to test this conclusion by filing a § 126 petition for ozone transport. *See infra* note 529.

ozone derives from a variety of sources that Section 126 does not encompass.[130]

Compounding the legal hurdles raised by Section 126, any attempts to regulate individual emitters of ozone are scientifically problematic as well.[131] The limitations on computer modeling make the identification of a single source of ozone, or even a group of comparable sources, difficult to prove with certainty.[132] As a result, the practical modeling and scientific limitations make Section 126 useful only in a small subset of transport scenarios such as where a large stationary source is immediately adjacent to a border.

Perhaps the most crucial limitation of Section 126 was the requirement that the pollution from the upwind jurisdiction must "significantly contribute" to nonattainment in a given area. The 1977 CAA included no explicit guidance regarding what level of contribution to nonattainment would be significant.[133] The precise meaning of the term "significantly contribute" has therefore proven controversial and has stalled attempts by states to use Section 126 against transboundary pollution.[134] The language of the provision is susceptible to a spectrum of interpretations.[135]

EPA has interpreted the term so restrictively that, to date, no state has been able to utilize Section 126 successfully to obtain redress.[136]

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[130] Prior to the 1990 CAA, Congress considered data that indicated the breakdown of major VOC sources was: 50% mobile source emissions from cars and trucks; 30% emissions from solvent evaporation from sources like dry cleaners and printers; and 12% from home fuel combustion. The breakdown of major NOx sources was: 35% mobile sources; 35% electric utilities; and 12% industrial fuel combustion. In urban areas the percentage attributable to mobile sources of VOCs and NOx was higher. H.R. REP. No. 490, 101st Cong., 2d Sess. 202–03 (1990), *reprinted in* LEGISLATIVE HISTORY II, *supra* note 46, at 3226–27.

[131] *See generally* Talkington, *supra* note 107, at 959 (noting that "[l]ong range transport and shifting wind currents make identification of specific sources of air pollution nearly impossible").

[132] *See* Miller, *supra* note 13, at 151 (regarding the limits of current modeling technology).

[133] *See, e.g., Interstate Pollution Abatement 1984*, *supra* note 128, at 34,858; Interstate Pollution Abatement; Final Determination, 47 Fed. Reg. 6624, 6626 (1982) [hereinafter *Interstate Pollution Abatement 1982*].

[134] Commentators noted the need for EPA to develop a rule to preclude "de minimis" interference yet avoid situations in which a small "poorly controlled" source could stop the construction of new well-controlled sources. *See* Jerome Ostrov, *Interboundary Stationary Source Pollution—Clean Air Act Section 126 and Beyond*, 8 COLUM. J. ENVTL. L. 37, 77 (1982).

[135] Commentators have noted the extreme malleability of the statutory language and dearth of legislative history to pin down its intended meaning: "The rationale of Section 126—that pollution problems ought not to be exported—is highly imprecise, and would support any standard ranging from a rigorous no cross-boundary trespass rule to a lax test allowing full appropriation of a neighbor's dispersion capacity." *See* WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW, § 3.16, at 320 (1986).

[136] *See* Talkington, *supra* note 107, at 957 (noting that "[h]istorically EPA regulation and enforcement under § 126 can only be described as ineffectual").

EPA administratively thwarted attempts by states to use Section 126 to reduce transported pollutants in the 1980s, and states sought redress in the courts. In *Air Pollution Control District of Jefferson County, Kentucky v. EPA*, the United States Court of Appeals for the Sixth Circuit reviewed EPA's denial of a petition by an area in Kentucky based upon sulfur dioxide transport from Indiana.[137] EPA's modeling indicated that the Indiana source only contributed up to three percent of the sulfur dioxide in the Kentucky nonattainment area.[138] In its notice and comment consideration of the petition, EPA entertained comments upon whether this amount of contribution constituted a "substantial contribution" to nonattainment.[139] The Agency rejected strict interpretation of the standard as a "but for" test that required the petitioner to show that the upwind state was the sole reason for nonattainment in the downwind area.[140] EPA declined, however, to answer the ultimate question concerning what precise quantity would suffice. Because the percentage of contribution was relatively small, the Agency merely decided that a three percent contribution was not "sufficiently significant . . . under any reasonable interpretation of the statutory language."[141] The lesson of the case was that contribution of only up to three percent of the pollutant in a nonattainment area is not significant for purposes of Section 126.[142]

In *New York v. EPA*, three states challenged EPA's denial of their Section 126(b) petitions.[143] The states alleged that their sulfur dioxide nonattainment was a direct result of transport from a number of upwind states. In its consideration of the petitions, EPA assessed whether out-of-state sources made a significant contribution to the level of pollution causing nonattainment.[144] EPA reached the merits only on the petition by Pennsylvania and concluded that "more than

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[137] *See* Air Pollution Control Dist. of Jefferson County, Ky. v. EPA, 739 F.2d 1071, 1071 (6th Cir. 1984).

[138] *Interstate Pollution Abatement 1982*, *supra* note 133, at 6627 (1982). This counter-intuitive conclusion sparked debate about the accuracy of EPA's modeling, but the court deferred to the agency's expertise in designing models and interpreting data. *See Air Pollution Control*, 739 F.2d at 1083–84.

[139] Although § 110(a)(2)(E) was silent as to the amount of pollution transport that would violate the provision, EPA interpreted the statute to bar transport that would "cause or substantially contribute to" nonattainment. *See Interstate Pollution Abatement 1982*, *supra* note 133, at 6628.

[140] *See id.* at 6626. The reviewing court deferred to EPA's decision in the absence of contrary statutory guidance. *See Air Pollution Control*, 739 F.2d at 1093.

[141] *Air Pollution Control*, 739 F.2d at 1093.

[142] *Id.* at 1093–94.

[143] New York v. EPA, 852 F.2d 574, 576 (D.C. Cir. 1988), *cert. denied*, 489 U.S. 1065 (1989).

[144] *Id.* at 577.

80% of the [sulfur dioxide] contributing" to nonattainment came "from Pennsylvania sources, and that therefore the out-of-state sources did not 'significantly contribute' to the violation."[145] By implication, approximately twenty percent of the pollutant did emanate from other states. Again, EPA reached its determination and denied the petition based upon the relative proportions of the pollutant sources produced in-state and out-of-state. This was equitable as the downwind states sought to impose emissions controls on upwind states before they had addressed their own emissions adequately.[146] The lesson of the case, however, was that even twenty percent of pollutants from transport may not constitute significant contribution for purposes of Section 126.

These cases demonstrate that EPA assesses the level of contribution that is significant on a case-by-case basis and, therefore, what is significant in one situation might not be significant in another. Nevertheless, EPA's determinations suggest that as little as three percent or as much as twenty percent contribution to nonattainment for a given pollutant was not sufficient to constitute significant contribution. By setting the standard high, EPA effectively has eliminated the use of Section 126 to halt interstate transport unless a state had a very high level of a pollutant from another jurisdiction.

As a further limitation, EPA interpreted Section 126 narrowly to require only an investigation of the interstate emissions from one or more major sources targeted in the petition rather than a general review of the upwind state's SIP for violation of Section 110(a)(2)(E).[147] In the *New York* decision, the state argued that a Section 126 petition obligated EPA to conduct a broader review of the SIPs of various upwind states to insure that they complied with

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[145] *Id.* at 580.

[146] Air Pollution Control Dist. of Jefferson County, Ky. v. EPA, 739 F.2d 1071, 1077, 1094 (6th Cir. 1984) (noting the patent unfairness of the EPA ruling in light of the different emissions levels permitted by the two states). Equity was not an overriding concern, however, in *Air Pollution Control*. The SIP governing Kentucky permitted its three power generating plants to emit only 1.2 pounds of sulfur dioxide per million BTUs of energy. The SIP governing Indiana, however, permitted its single power plant, only one mile upwind from Kentucky, to emit 6.0 pounds of sulfur dioxide per million BTUs. As a result, the Indiana plant was able to operate without any emission controls and particularly without the expensive control measures Kentucky imposed upon its sources. Despite the disparity in the emissions levels, the Indiana jurisdiction was in attainment for sulfur dioxide and the Kentucky jurisdiction was not. EPA's modeling demonstrated that the Indiana source did not contribute massively to the Kentucky problem, but the appearance of inequity pervaded the rulemaking process and the judicial review of the agency determination. *Id.*

[147] *New York v. EPA*, 852 F.2d at 577–79.

Section 110(a)(2)(E).[148] EPA resisted this reading of the statute, and the United States Court of Appeals for the District of Columbia Circuit agreed that neither the statutory language nor the structure and legislative history of the 1977 CAA supported the state's position.[149] The result of this interpretation is that states cannot use Section 126 to initiate a review of another state's entire SIP.

Viewed in toto, the 1977 CAA did not provide effective solutions to prevent pollutant transport.[150] Presumably EPA was able to use Section 110(a)(2)(E) to convince states to limit transport in the administrative diplomacy that occurs in the SIP approval process. The relatively small number of reported judicial challenges to EPA SIP reviews for failure to prevent transport perhaps supports this hypothesis. Nevertheless, in the way that mattered most, i.e., the reduction of transported pollutants, the 1977 CAA was not effective.[151]

C. *The 1990 Clean Air Act*

The 1990 CAA included many major amendments to address air pollution problems ranging from a new market-based approach to acid rain control in Title IV to a new permit program in Title V.[152] The 1990 CAA also contained numerous new provisions intended by Congress specifically to rectify widespread ozone nonattainment.[153] Congress expressed concern that most urban areas throughout the country

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[148] *Id.* at 577–78.

[149] *Id.* at 578–79.

[150] Despite years with improved ozone readings, some experts contend that most reductions have been illusory because they result from weather patterns more than human efforts to control precursors. *See* RETHINKING OZONE, *supra* note 1, at 4.

[151] In conjunction with the 1990 Amendments, Congress noted that the 1977 CAA and EPA programs had not resulted in the reductions essential to meet the NAAQS. *See* H.R. REP. No. 490, 101st Cong., 2d Sess. 145 (1990), *reprinted in* LEGISLATIVE HISTORY II, *supra* note 45, at 3169.

[152] 42 U.S.C. §§ 7401–7671. Courts and attorneys still struggle with the volume and complexity of the changes. A federal court recently touched upon this point:

> The *amicus* brief of the United States describes the Clean Air Act as an extremely complex law and tells us that the "enormity of the 1990 amendments beggars description." Congress, *amicus* informs us, took what was widely perceived as an "unapproachable piece of legislation" and tripled the Act's length and "geometrically increased its complexity." After reviewing the Clean Air Act and the voluminous record pertaining to the Act submitted on this appeal, we have no reason to doubt the validity of the government's description of it.

Motor Vehicles Mfrs. Ass'n, Inc. v. New York State Dep't of Envtl. Conservation, 17 F.3d 521, 525 (2d Cir. 1994).

[153] *See* The Honorable Henry A. Waxman, *An Overview of the Clean Air Act Amendments of 1990*, 21 ENVTL. L. 1721, 1758–61 (1991) [hereinafter Waxman, *Overview*]; *see generally* The

violated the ozone NAAQS[154] and recognized the pivotal role ozone transport played in many nonattainment areas.[155] To reduce ozone nonattainment, new 1990 CAA provisions centered on five areas: (i) categorization of nonattainment by degree of pollution and imposition of graduated control programs;[156] (ii) introduction of emissions reduction milestones;[157] (iii) creation of NOx emissions controls;[158] (iv) introduction of new federal control measures;[159] and (v) creation of an interstate ozone transport region.[160]

Among the most marked changes of the 1990 CAA were those that directly addressed ozone transport. For the first time, the 1990 CAA established a regional approach to ozone transport to counteract the chronic nonattainment that stretches from Virginia to Maine.[161] In Section 184(a), the statute created the Northeast OTR, encompassing

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Honorable Henry A. Waxman et al., *Roadmap to Title I of the Clean Air Act Amendments of 1990: Bringing Blue Skies Back to America's Cities*, 21 ENVTL. L. 1843 (1991) [hereinafter Waxman, *Roadmap*].

[154] *See* Waxman, *Overview*, *supra* note 153, at 1756–57; H.R. REP. NO. 490, 101st Cong., 2d Sess. 145–47 (1990), *reprinted in* LEGISLATIVE HISTORY II, *supra* note 45, at 3169–71.

[155] *See* for example the statements of Connecticut's Senator Lieberman concerning the effects of transport: "The Connecticut Department of Environmental Protection has concluded that even if all of the industry in the state was shut down and all of the cars in the state were stopped that the state would still not comply with the nationally established ozone standard." IV COMM. ON ENVIRONMENT AND PUBLIC WORKS, LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 5076 (Cong. Info Serv. 1993) [hereinafter LEGISLATIVE HISTORY IV] (comment of Sen. Lieberman, Senate debate, January 31, 1990).

[156] The graduated control program of § 182 divides ozone nonattainment areas into five levels of nonattainment: marginal, moderate, serious, severe, and extreme based upon the area's measured level of ozone. 42 U.S.C. § 7511a. Section 182 specifies required control measures for each category of nonattainment with each higher level requiring the control measures of the preceding level plus more aggressive measures. *Id.* The more serious the nonattainment, the longer the deadline for reaching attainment. *Id.*

[157] Milestones are specific percentage reductions of VOCs to encourage gradual progress towards attainment. Moderate, serious, severe, and extreme ozone nonattainment areas must reduce VOC emissions by 15% over the six years following enactment of the 1990 CAA. After that 15%, serious, severe, and extreme areas must further reduce VOC emissions by 3% per year until attainment. In addition to these percentages, the states must also generate reductions to offset all new increases in emissions after the base year. *Id.* §§ 7511(b)(1)–7511(c)(2)(B).

[158] Section 182(f) provides that states must enact control measures to reduce NOx emissions comparable to those for VOCs. *Id.* § 7511a(f).

[159] Section 183 requires EPA to develop further control strategies to address ozone precursor emissions and to make those strategies available to states through guidance documents. The purpose of the federal control measures is to devise new methods to control hitherto unregulated emissions sources such as consumer products like paints and solvents. *Id.* § 7511b.

[160] *Id.* § 7511c.

[161] A long-stated goal of the CAA is to encourage interstate cooperation, and the CAA contains a formal advance consent of Congress to compacts or other binding agreements between states. *Id.* § 7402. The 1990 CAA was the first to require states to cooperate regionally. *See id.* § 7511c.

the states of the Northeast and a Northeast Ozone Transport Commission (Northeast OTC) with representatives of the Northeast OTR jurisdictions, to make regional determinations regarding ozone transport.[162] Creation of the transport region finally acknowledged that transport of ozone precursors across a geographic region makes states and their emission control programs interdependent.[163]

Next, Section 184(b) of the 1990 CAA stipulated control measures necessary to reduce rampant ozone precursor emissions and directed states to impose these measures on a region-wide basis.[164] These mandatory measures required reduction of VOCs and NOx emissions to alleviate ozone within the entire ozone transport region.[165] Section 184(b) requires states to impose certain control measures universally throughout their borders including areas without local ozone NAAQS violations.[166] Section 184(b) thus departs from the standard requirements of the CAA by imposing control measures on attainment areas for the benefit of nonattainment areas regardless of whether the former actually contribute pollutants to the latter.

To further reduce ozone precursor emissions, the 1990 CAA invested the Northeast OTC with the power to petition EPA to impose additional region-wide control measures requested by the Northeast OTC after a majority vote of its members.[167] Under Section 184(c), EPA must assess the recommendation to determine if the requested control measure is "necessary"[168] to reach attainment of the ozone NAAQS in any area of the Northeast OTR.[169] To encourage EPA to act upon these recommendations, Section 184(c) obligates EPA to make its determination within a set period of time and places the burden upon EPA to establish that a recommended control measure

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[162] *Id.* § 7511c.

[163] *See* Waxman, *Roadmap*, *supra* note 153, at 1896.

[164] The control measures are: (i) cities with a population of 100,000 or more must have enhanced motor vehicle inspection and maintenance programs and must apply reasonably available control measures (RACT) to certain VOC sources; (ii) the entire state must have stage II vapor recovery or an equivalent measure for emissions reductions; and (iii) all stationary sources throughout the state that emit 50 tons per year or more of VOCs must meet the regulations generally applicable to major sources in a moderate nonattainment area. 42 U.S.C. § 7511c(b)(1)–(2).

[165] *Id.* § 7511c(b).

[166] *Id.*

[167] *Id.* § 7511c(c).

[168] "Necessary" is a term of art EPA has defined through rulemaking under § 184. A control measure is "necessary" if any areas in the Northeast OTR cannot attain the ozone NAAQS without it. *See OTC LEV Final Rule*, *supra* note 58, at 4719.

[169] 42 U.S.C. § 7511c(c).

is not necessary to reach attainment if it declines to approve the Northeast OTC recommendation.[170] Congress's presumed intent in creating the Northeast OTC to make regional determinations on air pollution policy was to encourage states to devise their own solutions, yet to avoid the pitfalls of the "conference" approach to interstate dispute resolution.[171] The 1990 CAA diverged markedly from those historical antecedents by giving EPA the affirmative duty to assess the communal decisions of the Northeast OTC and to impose new control measures if appropriate.[172] Congress also sought to encourage regional solutions to ozone transport by providing for the creation of additional pollutant transport regions. Section 176A permits EPA, either at its own instigation or at the request of any state, to create a transport region.[173] The basis for creation of a new region is an EPA finding that interstate transport of any pollutant "contributes significantly" to a NAAQS violation in another state.[174] Similarly, EPA may add a state or area to an existing transport region upon a finding of significant contribution to transport, or may remove a state or area from an existing transport region upon a finding that inclusion of the state or area will not significantly contribute to regional attainment.[175] Enactment of Section 176A reflected widespread belief that regional

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[170] The legislative history indicates that Congress purposely placed this burden upon EPA to preclude agency inaction. For example, Senator Lieberman noted:

> The Administrator has the final authority to disapprove additional measures recommended by the Commission. However, EPA bears a heavy burden of demonstrating that the additional control measure is not necessary to bring any area of the region into attainment by the dates provided and to recommend equal or more effective actions that could be taken by the Commission to conform the disapproved portion of the recommendations.

I COMM. ON ENVIRONMENT AND PUBLIC WORKS, LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 1053 (Cong. Info. Serv. 1993) [hereinafter LEGISLATIVE HISTORY I] (statement of Sen. Lieberman, Senate debate, Oct. 27, 1990).

[171] A number of statements in the official legislative history indicate the concern that air pollution in the Northeast is a common enemy best fought on a united front. *See, e.g., id.* at 1053 ("[t]he creation of a regional air quality commission is an important and creative part of the bill. It recognizes that it is impossible to put a cleanup bubble over an individual State. It puts some responsibility on the States to be good neighbors. . . .") (statement of Sen. Lieberman, Senate debate, Oct. 27, 1990).

[172] Commentators had long advocated that the best means to fight transport was to encourage a regional approach among states in conjunction with stronger federal involvement as a neutral "voice of reason" to resolve disputes. *See* Silverstein, *supra* note 52, at 294.

[173] 42 U.S.C. § 7506a.

[174] *Id.*

[175] *Id.* EPA has promulgated guidance regarding how areas can opt out of the Northeast OTR. *See* discussion *infra* note 271 and accompanying text.

solutions are the best method to alleviate nonattainment caused by transport.[176]

The 1990 CAA also amended former Section 110(a)(2)(E) in significant ways.[177] Most importantly, the amendment drastically expanded the coverage of the provision by supplementing the reference to emissions from "sources" with emissions from "other types of emissions activity."[178] This modification allows EPA to consider emissions from any source or group of sources within the state when assessing the extraterritorial impacts of transport.[179] This single change means, for example, that EPA can disapprove a SIP on the basis of transport from a large number of mobile sources in a given state or area, thereby empowering EPA to address the predominant source of ozone transport in most jurisdictions.[180]

Second, Section 110(a)(2)(D)(i)(I) now expressly permits EPA to consider emissions that "contribute significantly" to nonattainment in another area or state.[181] The statute still neither defines this term nor provides other meaningful guidance regarding the precise amount of cross-boundary emission necessary to violate the standard.[182] Based upon the change of language, however, it appears that the Section is more restrictive than the former prohibition against transport of a

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[176] *See* Waxman, *Roadmap*, *supra* note 153, at 1937.

[177] Section 110(a)(2)(D) now provides that the SIP submitted to EPA by a state shall:

> contain adequate provisions—
>
> (i) prohibiting, consistent with the provisions of this subchapter, any source or other type of emissions activity within the State from emitting any air pollutant in amounts which will—
>
> (I) contribute significantly to nonattainment in, or interfere with maintenance by, any other State with respect to any such national primary or secondary ambient air quality standard, or
>
> (II) interfere with measures required to be included in the applicable implementation plan for any other State under part C of this subchapter to prevent significant deterioration of air quality or to protect visibility,
>
> (ii) insuring compliance with the applicable requirements of Sections 7426 and 7415 of this title (relating to interstate and international pollution abatement).

42 U.S.C. § 7410(a)(2)(D).

[178] *Id.*

[179] For example, in the OTC LEV Final Rule, EPA looked beyond the emissions of stationary sources to include the emissions of all sources. *See OTC LEV Final Rule*, *supra* note 58, at 4713.

[180] *See infra* note 335 and accompanying text. EPA has expressed its intention to utilize Section 110(a)(2)(D) against states that fail to institute appropriate control measures on all sources of ozone precursors to combat transport.

[181] 42 U.S.C. § 7410(a)(2)(D)(i).

[182] One commentator has branded the standard "no standard at all" and compared it to Justice Stewart's famous visual test for obscenity, knowing it when he saw it. *See* Talkington, *supra* note 107, at 967.

"pollutant in amounts which will prevent attainment or maintenance" as provided in the 1977 CAA.[183] Formerly, EPA arguably could not halt emissions of a pollutant in one state unless it was the sole cause of nonattainment in another.[184] Alternatively, literal application of the 1977 CAA provision suggested that EPA should restrict any emission from an upwind state if it interfered with attainment.[185] Section 110(a)(2)(D)(i)(I) now expressly indicates that EPA may halt emissions that are simply a contributing factor in another state's nonattainment.[186] In this respect, the changes in Section 110(a)(2)(D) follow the evolution of the standard EPA developed administratively in the Section 126 cases.[187] Congress apparently chose to codify the approach taken by the Agency.

Finally, Section 110(a)(2)(D)(i)(I) of the 1990 CAA provides a separate standard of scrutiny of SIPS for transport impacts upon maintenance areas and thus bifurcated the analysis for compliance.[188] Maintenance areas are those areas that EPA formerly classified as nonattainment but that have subsequently complied with the NAAQS.[189] In the 1977 CAA, the Section instructed the EPA to insure that states included SIP prohibitions against emissions that would "prevent" maintenance of the NAAQS.[190] This standard suggested a higher level of proof in which an aggrieved state had to show that the emissions from the upwind state were the only impediment to continued attainment. The 1990 CAA provides instead that EPA must prohibit emissions that would merely "interfere" with maintenance of the NAAQS.[191] This clarification suggests that Congress intended EPA to restrict upwind state emissions more stringently than before. Such a policy is logical because it rewards states that have enacted the control measures necessary to attain the NAAQS and discourages transport into areas perhaps already predisposed to nonattainment.

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[183] *See supra* note 96 and accompanying text.

[184] A party in *Connecticut v. EPA*, the owner of the power plant that wished to use high sulfur fuel regardless of its effect on neighboring states, seriously argued for this interpretation of the statute. *See* 696 F.2d 147, 164 (2d Cir. 1982).

[185] EPA instead opted for a reasonable interpretation of the statute to prevent "significant" or "substantial" contribution of pollutants to nonattainment areas. *See* Air Pollution Control Dist. of Jefferson County, Ky. v. EPA, 739 F.2d 1071, 1091 (6th Cir. 1982).

[186] 42 U.S.C. § 7410(a)(2)(D)(i).

[187] Courts had already effectively read into § 110(a)(2)(E) of the 1977 CAA the "significant contribution" standard of § 126. *See Air Pollution Control*, 739 F.2d at 1093.

[188] 42 U.S.C. § 7410(a)(2)(D)(i)(I).

[189] *See generally id.* § 7505a (discussion of maintenance areas).

[190] *See supra* note 101 and accompanying text.

[191] 42 U.S.C. § 7410(a)(2)(D)(i)(II).

The 1990 CAA did not greatly amend Section 126 concerning a state's right to halt or limit emissions from major sources in other states.[192] The most notable alteration changed the Section to provide expressly that a state may maintain an action because of emissions from a group of major sources rather than having to develop proof that a single major source emitted the offending transported pollutant. This change ratified the interpretation already followed by EPA that recognized the impracticality of proving that a single source emitted the pollutant and also the reality that a large number of major sources can together produce a significant contribution to the nonattainment of another state, even if they would not individually.[193] The lack of other changes suggests congressional satisfaction with the status quo in spite of the inability of any state to maintain a successful action under Section 126 to date.[194]

The changes Congress enacted in the 1990 CAA indicate that it was aware of the significant problem posed by ozone transport.[195] Viewed in terms of the three fundamental problems of transport policy apparent after the 1970 CAA, Congress has continued to move toward stronger measures to counter transboundary pollution. Congress strengthened EPA's position by broadening the SIP review process to encompass a wider universe of relevant emissions sources.[196] Ostensibly, this will increase the Agency's power to resolve the allocation of air resources between states. Congress also attempted to clarify the relationship between upwind and downwind jurisdictions under the CAA by providing a more explicit standard for prevention of cross-boundary pollution.[197] The standard is still imprecise, but

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[192] Section 126 now provides that any state or political subdivision may petition EPA for a finding that "any major source or group of stationary sources emits or would emit any air pollutant in violation of [§ 110(a)(2)(D)]." 42 U.S.C. § 7412(b).

[193] *See Interstate Pollution Abatement 1984*, *supra* note 128, at 34,851 n.50.

[194] One commentator has noted the continued disjunction between § 110 and § 126 and has speculated that because § 126 does not track the "any source of emissions" language of § 110, it will continue to cause trouble for states seeking redress. *See* Talkington, *supra* note 107, at 975.

[195] Legislative history confirms the concern of Congress. *See, e.g.*, H.R. REP. No. 490, 101st Cong., 2d Sess. 202, *reprinted in* LEGISLATIVE HISTORY II, *supra* note 45, at 3226.

[196] Section 110(a)(2)(D) now includes emissions from "any source or other type of emissions activity." 42 U.S.C. § 7410(a)(2)(D). Earlier versions of the provision limited the review to emissions from "stationary sources." *See* Clean Air Act Amendments of 1977, Pub. L. No. 95–95, § 108, 91 Stat. 685, 693 (1977).

[197] The standard in § 110 now prohibits emissions that would "contribute significantly to nonattainment in, or interference with maintenance by, any other State." 42 U.S.C. § 7410(a)(2)(D). In an earlier incarnation, this provision required prohibition of emissions that

Congress has signaled that the level of transport the EPA must prohibit is somewhere between the extremes for which the parties have argued, i.e., EPA must prevent transport that is a "significant contribution" to nonattainment. In addition, Congress sought to encourage states to cooperate on a regional basis rather than as fifty competing free agents. In the case of the Northeast OTR, Congress imposed a regional approach on the affected states.[198] For other states, Congress has created a new mechanism for interstate cooperation to combat pollutant transport that is less complicated and perhaps more effective than its predecessors.[199] Six years after its enactment, however, the 1990 CAA has not provided all the necessary solutions to ozone transport and has engendered new controversies.

III. Anomalous Impacts of the 1990 CAA

The history of the CAA reflects that Congress has taken an interstitial approach to combat ozone transport.[200] Given this approach, Congress could not anticipate all of the complications that might arise in the implementation of the statute.[201] Since the enactment of the 1990 CAA, EPA and states have encountered daunting problems in the application of the statute's provisions to the realities of ozone transport. Many problems arise from the ramifications of the statute for downwind jurisdictions.

The disadvantages for downwind states begin at the definitional level and extend throughout the statutory provisions of the 1990 CAA. First, the definition of "nonattainment" may apply to an area regardless of the source of the ozone or other pollutant that violates the applicable NAAQS.[202] The degree of an area's nonattainment depends solely upon the measured quality of the ambient air at a limited number of monitors.[203] Although the statutory definition of nonattain-

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would "prevent attainment or maintenance by any other State." *See* Clean Air Act Amendments of 1977, Pub. L. No. 95–95, § 108, 91 Stat. at 693.

[198] *See* 42 U.S.C. § 7511c.

[199] *See id.* § 7506a.

[200] *See, e.g., supra* Section II and accompanying text (discussing slow evolution of § 110(a)(2)(D)).

[201] For example, control measures created by Congress in the 1990 CAA have proven less effective and more expensive than anticipated in 1990 and Congress has subsequently acted to change the control measures. *See infra* notes 469–70 and accompanying text.

[202] Section 107(d)(1)(A) provides, inter alia, that EPA and the state designate as nonattainment: "any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant." 42 U.S.C. § 7407(d)(1)(A).

[203] *See generally id.* § 7511.

ment explicitly acknowledges that one area can cause the nonattainment of another, the provision makes no exceptions for an area so affected. EPA must thus classify an area as nonattainment for ozone even if the area has no sources of ozone or ozone precursors within its geographical boundaries or under its legal control through the SIP process. In short, the CAA definition can designate an area nonattainment simply because it is the recipient of another area's polluted air.[204]

Once designated nonattainment, the area must comply with the full panoply of requirements and restrictions that attend this status. For example, the CAA obligates a moderate nonattainment area to implement the control measures enumerated in Section 182(b) even if the area does not encompass the actual sources of the pollutant in its ambient air.[205] Section 182 imposes a regime of control measures that escalates by steps depending upon the severity of the area's nonattainment from marginal to extreme.[206] With each escalation in the severity of nonattainment, the CAA imposes additional mandatory control measures that involve increasing cost and complexity. In theory, adoption of the extra control measures will cause the area to reach attainment by the specified attainment date.[207]

If the actual sources of the pollutant lie outside the boundaries of the area, however, the control measures will fail to ameliorate the area's nonattainment.[208] Assuming that the area has some emissions of ozone precursors, certain controls may initially have limited positive effects. As the control measures limit or eliminate the indigenous sources of ozone precursors, additional control measures will be increasingly ineffective to improve ambient air quality.[209] Notwithstand-

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[204] Members of the 104th Congress have noted this critical problem. For example, Michigan's Senator Levin described the situation in his state as follows: "[T]hese three counties are not the cause of their own or any other area's ozone problem and no matter what these counties do for themselves, it is unlikely that they will be able to achieve and stay in attainment." 141 CONG. REC. S4589 (daily ed. Mar. 24, 1995) (statement of Sen. Levin).

[205] 42 U.S.C. § 7511a(b).

[206] *Id.*

[207] *See* Waxman, *Roadmap*, *supra* note 153, at 1860.

[208] For example, a 1991 study of the Lake Michigan area indicated that air entering the region already contained as much as 100 ppb of ozone and thus left little margin for local emissions before a NAAQS violation occurs. *See Ozone Nonattainment Under the Clean Air Act: Hearing Before the Subcomm. on Tech., Env't, and Aviation of the House Comm. on Science, Space, and Tech.*, 103rd Cong., 2d Sess. 33–34 (1994) (statement of Don Theiler, Director, Bureau of Air Management, State of Washington) [hereinafter *Ozone Hearing*].

[209] EPA has acknowledged that additional controls in areas subject to transport may be "futile" and that it is "implicit in the [CAA] that the purpose of control measures is to achieve attainment." *See* Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; State of Michigan, 61 Fed. Reg. 31,831, 31,842 (1996) (redesignating Grand Rapids area to attainment) [hereinafter *Grand Rapids Redesignation*].

ing this result, Section 181(b)(2) mandates an increase in the severity level of the area's designated nonattainment classification if the area misses an attainment deadline.[210] There could, therefore, be scenarios in which a state no longer has any ozone precursor emissions yet the level of transported ozone obligates that state to enact an ever more restrictive set of controls to meet unreachable ambient air goals.[211] Eventually, a state will be unable to implement controls that will achieve the necessary reductions to reach the attainment target.[212]

When a state can no longer submit a SIP that will demonstrate compliance with the ozone NAAQS, it will run afoul of the requirements for timely and complete SIP submissions in Section 110. Moreover, Section 110(k)(5) directs EPA to make a "SIP call" at any time it finds a state's SIP inadequate to reach attainment and to give the state a reasonable period, not to exceed eighteen months, to rectify the shortcoming.[213] Failure to demonstrate timely attainment or other infractions regarding SIP submissions are grounds for EPA to sanction a state.[214] Under Section 179,[215] EPA may sanction a noncomplying state within its discretion at any time following a finding of noncompliance and must sanction a noncomplying state eighteen months following such a finding.[216] Even if EPA exercises its discretion not to

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[210] 42 U.S.C. § 7511(b)(2).

[211] Midwestern officials have noted the problem of being "bumped up" to a higher category of nonattainment simply because the state is downwind from a more polluted area. *See Ozone Hearing*, *supra* note 208, at 25.

[212] The rural western counties of Michigan provide the quintessential example. These areas suffer from significant ozone pollution despite a lack of significant sources of the precursor chemicals. The ozone evidently results almost exclusively from transport from the Chicago metropolitan area and thus any controls imposed by the state of Michigan will have little, if any, result. EPA officials have acknowledged that the CAA requires controls that the Agency knows will not improve the area's air quality. *See Areas With Transported Ozone May Get To Extend Attainment Deadline, Nichols Says*, Daily Env't Rep. (BNA) No. 141, at D–12 (July 26, 1994) (acknowledging futility of control measures for western Michigan) [hereinafter *Areas With Transported Ozone*].

[213] 42 U.S.C. § 7410(k)(5).

[214] The four triggers are nonsubmittal, incompleteness, substantive unapprovability, and nonimplementation of SIPs. *Id.* § 7509(a).

[215] Section 179(b) includes two mandatory sanctions: (i) suspension of certain federal highway funds; and (ii) offset requirements for development that require a two to one ratio of reductions for new sources in the nonattainment areas of the state. EPA must impose one of the sanctions after 18 months and must impose the other after an additional six months if the state has not corrected the deficiency. *Id.* § 7509(a)–(b).

[216] EPA contends that it may issue sanctions within its discretion under § 110(m) for 18 months following a finding and must issue sanctions thereafter in accordance with § 179(b). Unlike mandatory sanctions, EPA may impose discretionary sanctions statewide under certain circumstances and it is not limited to nonattainment areas. *See* Criteria for Exercising Discretionary

impose early penalties because of inequitable transport-related circumstances, Section 179 explicitly directs EPA to sanction a state eighteen months after a finding that its SIP is insufficient to bring an area into attainment unless the state has corrected the deficiency.[217] In either scenario, the sanctions mete out harsh punishment for a jurisdiction unable to attain because of pollutants transported from outside that area.[218]

Ultimately, if the state is unable to implement emissions controls sufficient to reach attainment, Section 110(c) contemplates that EPA shall take over this responsibility and develop a Federal Implementation Plan (FIP).[219] The FIP process strips a state's authority to make its own technical, economic, and political decisions regarding pollution control within its own bailiwick. In the worst case scenario, where there are no ozone precursor sources within the state, EPA can presumably do little through a FIP either to remedy the problem or to affect the state adversely.[220] In a more realistic scenario, however, in

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Sanctions Under Title I of the Clean Air Act, 59 Fed. Reg. 1476 (1994); *see also* Natural Resources Defense Council v. Browner, 57 F.3d 1122, 1124 (D.C. Cir. 1995).

[217] The prospect of losing federal highway money gets the attention of states otherwise unwilling to comply with the CAA. Virginia's Governor has been openly hostile to EPA and the state has sued to have the CAA declared unconstitutional. *See, e.g.*, Peter Baker, *Allen Sues U.S. on Air Pollution; Governor Contends States Can Decide How to Regulate Range of Areas*, WASH. POST, Jan. 10, 1995, at B5 (quoting Virginia's Governor as saying "[w]e're not going to continue to just be jerked around like serfs"). Virginia will lose approximately $1 billion per year in highway funds if the state does not comply with the 1990 CAA. Virginia's Attorney General contends that conditioning federal highway funds on compliance with the CAA constitutes a 10th Amendment violation. *See* Paul Kemezis, *States' Revolt Against EPA Emission Rules is Growing*, ENV'T WK., Jan. 12, 1995, *available in* 1995 WL 7721141. Virginia also stands to suffer economically if EPA imposes the offset sanction for new sources of emissions. Virginia's Governor has been an outspoken advocate for new manufacturing plants outside Richmond in an ozone nonattainment area. Imposition of sanctions could make the location and the state as a whole less attractive. *See* Rex Springston, *Motorola's Pollution Record Clean; Proposed Plant Poses Little Threat to Area, Officials Say*, RICHMOND TIMES-DISPATCH, Apr. 15, 1995, at A1. Virginia lost its constitutional challenge to the sanctions provisions of § 179 in *Virginia v. Browner*, 80 F.3d 869, 873 (4th Cir. 1996), but is attempting to reassert them in connection with a case still pending, *Virginia v. EPA*, Nos. 95–1163, 95–1177, & 95–1180 (D.C. Cir. filed Mar. 14, 1995). Another federal court has already rejected a similar constitutional challenge by Missouri. *See* Missouri v. United States, 918 F. Supp. 1320, 1336–37 (E.D. Mo. 1996).

[218] A number of bills pending in the 104th Congress propose to rectify this problem by placing a moratorium on EPA's sanctions authority. *See infra* Section V (discussing legislative initiatives).

[219] 42 U.S.C. § 7410(c).

[220] EPA officials have expressed hesitancy to impose FIPs when the Agency cannot reduce emissions faster than the states themselves. A number of environmental groups contend that EPA is shirking its responsibilities and have filed suit to force the Agency to act. *See Environmental Groups Sue EPA Over VOC-Reduction Enforcement*, Daily Env't Rep. (BNA) No. 118,

which a state has some sources of ozone such as its citizens' automobiles, the CAA will require EPA to devise controls to reduce ozone that the drivers or industry of the state might consider draconian.[221] Inhabitants of the state must then endure not only the control measures necessary to reach attainment for their own emissions, but also extra measures to make up for ozone that wafts in from upwind states.[222]

Further complications arise because of the conformity rule set forth in Section 176(c).[223] That Section prohibits the federal government from having any involvement in projects that fail to conform with a state's SIP. The statute defines "conformity" broadly to indicate that a project: (i) must be consistent with the SIP's purpose of reducing the number and severity of NAAQS violations and achievement of "expeditious attainment;" and (ii) cannot cause new violations, exacerbate existing violations, or delay compliance with any required reductions or the ultimate attainment deadline.[224] One primary purpose of the conformity rule is to "protect the integrity of the implementation plan by ensuring that its growth projections are not exceeded without additional measures to counterbalance the excess growth."[225]

Application of the conformity rule to a nonattainment area requires the federal government to scrutinize all projects closely to prevent

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at D–12 (June 19, 1996) (explaining groups' demands that EPA develop FIPs because states have failed to submit rate of progress emissions reductions plans).

[221] To date, EPA has only been involved in the development of a FIP for southern California. The action and its resulting plan have been unpopular with many Californians. *See* Wash. Legal Found., Legal Opinion Letter, The California Federal Implementation Plan (FIP): EPA's Formula For Economic Disaster (July 15, 1994) (describing the FIP as "draconian in its impact and impractical in its requirements").

[222] Members of the 104th Congress have proposed a moratorium on EPA's authority to impose FIPs on states with ozone nonattainment violations. *See infra* Section V (discussing legislative initiatives).

[223] Section 176(c) provides, in part: "No department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity which does not conform to an implementation plan after it has been approved or promulgated under Section [110] of this title." 42 U.S.C. § 7506(c)(1). Pursuant to the statute, EPA issued a "Transportation Conformity Rule" and a "General Conformity Rule." Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act, 58 Fed. Reg. 62,188 (1993) (to be codified at 40 C.F.R. § 51.93) [hereinafter *Conformity Criteria*]; Determining Conformity of General Federal Actions to State or Federal Implementation Plans, 58 Fed. Reg. 63,214 (1993) (to be codified at 40 C.F.R. §§ 6, 51, 93).

[224] 42 U.S.C. § 7506(c)(1)(A)–(B).

[225] *Conformity Criteria*, *supra* note 223, at 62,190.

further adverse environmental effects.[226] In an ozone nonattainment area, this may reduce the number and scope of federal projects. Transportation projects in particular will suffer drastic curtailment unless they meet stringent standards for conformity. The policy goals behind the conformity rule are laudable, but the effects upon areas subject to ozone transport may be inequitable and counterproductive.

For example, a prohibition against a given federal project in a downwind area with serious ozone nonattainment but few true sources of ozone precursors might adversely affect that area's development and economic climate. Ironically, if the upwind area meets the NAAQS within its own borders and EPA has not made a finding that it significantly contributes to the woes of the downwind area, the upwind area may more easily comply with the conformity rule and thereby benefit by continued federal projects that may increase transport to the downwind state.[227]

The anomalies of the nonattainment and ozone transport provisions also impact upwind jurisdictions under the express terms of the CAA. The definition of attainment contemplates that if an area contributes to nonattainment elsewhere it may thereby be in nonattainment.[228] This definition does not track the language of Section 110(a)(2)(D)(i)(I) which refers more restrictively to "significant" contribution to another jurisdiction. Section 110(k)(5) also obligates EPA to issue a SIP call whenever a state's SIP is "substantially inadequate" to mitigate the effects of transport.[229] Section 110(a)(2)(D)(i)(I) provides that EPA must review SIPs to insure that they prohibit "any source or other type of emissions activity . . . which will contribute significantly to

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[226] As a result of challenges by environmental groups, Congress clarified the statute to insure that the conformity rules apply only to nonattainment areas and maintenance areas. *See* National Highway System Designation Act of 1995, Pub. L. No. 104–59, § 305(b), 109 Stat. 568, 580 (1995) (codified as amended at 42 U.S.C.A. § 7506(c)(5) (West Supp. 1995)); *see also* Environmental Defense Fund v. EPA, 82 F.3d 451, 454 n.2 (D.C. Cir. 1996).

[227] The 104th Congress has introduced bills that propose moratoriums on EPA's ability to use ozone nonattainment resulting from failure to implement certain control measures as a factor in conformity decisions. *See, e.g.*, S. 248, 104th Cong., 1st Sess. § 3 (1995).

[228] 42 U.S.C. § 7407(d)(1)(A).

[229] Section 110(k)(5) provides:

> Whenever the Administrator finds that the applicable implementation plan for any area is substantially inadequate to attain or maintain the relevant [NAAQS], to mitigate adequately the interstate pollutant transport described in § [176A] or § [184] . . . or to otherwise comply with any requirement of this chapter, the Administrator shall require the State to revise the plan as necessary to correct such inadequacies.

Id. § 7410(k)(5).

nonattainment in, or interference with maintenance by, any other State . . . ."[230]

A literal application of these provisions might require EPA to halt much of the otherwise lawful emissions activity in an upwind state. For example, air crossing the border from state A to state B will have some level of ozone even if state A is unquestionably in attainment for ozone. It is unclear whether EPA must restrict emissions in state A so that the air at the border contains not more than 0.12 ppm of ozone, no ozone whatsoever, or any amount in between those extremes.[231] This conundrum has "plagued" EPA for decades.[232]

If EPA forces a state to reduce its emissions solely to prevent transport, rather than because of any in-state nonattainment, EPA will effectively have deprived that state of the increment of emissions ostensibly permitted by the NAAQS. Similarly, if EPA forces a state to accelerate control measures purely for the benefit of downwind states, EPA will have interfered with the upwind state's power to select and time implementation of control measures. A stringent enforcement of Section 110(a)(2)(D)(i)(I) might therefore hold the citizens or industry of an upwind state "hostage" to a downwind state.[233] A failure to comply with an EPA-mandated reduction would subject the upwind state to the same gauntlet of escalating statutory controls, FIPs, and potential sanctions.

As a practical matter, many states will be simultaneously both upwind and downwind relative to other states. The CAA attempts to limit EPA's scrutiny of transport to emissions activity within the state itself rather than that from farther upwind.[234] Given the complex variables at work in the creation of ozone, however, it may be difficult for many states to establish that the particular ozone causing downwind nonattainment came from farther upwind rather than from their own in-state emissions. Thus, if Massachusetts wants to receive relief from upwind sources of ozone in New York, it must also be willing to extend the same courtesy to downwind receivers of its own ozone such as Maine.

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[230] *Id.* § 7410(a)(2)(D).

[231] EPA evidently intends to address the issue of significant contribution on a case-by-case basis. *See infra* note 286 and accompanying text (discussing EPA's recent interpretations of significant contribution).

[232] *See* Air Pollution Control District of Jefferson County, Ky. v. EPA, 739 F.2d 1071, 1094 (6th Cir. 1984).

[233] *See* Connecticut v. EPA, 696 F.2d 147, 164 (2d Cir. 1982).

[234] The statute refers only to "any source or other type of emissions activity within the state." 42 U.S.C. § 7410(a)(2)(D)(i).

States in the Northeast OTR endure additional problems with the regime of transport provisions in the CAA. One reason for discontent is the blanket application of control measures throughout a state without regard to the geographical scope of the nonattainment areas within that state.[235] The result is that large areas of a state may face additional controls and standards that are arguably unnecessary. Critics complain that this renders an entire state unattractive to economic development because of the stringency of the control measures.[236] Inclusion in the Northeast OTR thereby compounds the perceived unfairness of the CAA. If any Northeast OTR state or portion thereof is in nonattainment because of transport, the entire transport region may potentially have to enact additional control measures and suffer the economic and other consequences.[237] If the sources of the transported ozone are located outside the borders of the Northeast OTR in Ohio or Virginia, the entire Northeast OTR may suffer because of the failure of these upwind jurisdictions to curtail emissions.[238] This has emboldened states to oppose membership in the Northeast OTR.[239]

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[235] *Id.* § 7511c(b).

[236] For example, utility industry representatives have complained that they are economically disadvantaged if they locate in attainment areas in western Pennsylvania because the entire state is treated as nonattainment because it is located in the Northeast OTR. *See Clean Air Committee Seeks Balance Between Growth, Attaining Air Quality*, Daily Env't Rep. (BNA) No. 60, at D–15 (Mar. 30, 1994).

[237] Section 184(c) provides that the Northeast OTR may pursue additional control measures "to be applied within all or a part of such transport region if the commission determines such measures are necessary to bring any area in such region into attainment." 42 U.S.C. § 7511c.

[238] In Maine's August 1, 1995, § 126 petition to EPA, the Governor claimed that upwind electric generation sources in Ohio, Indiana, West Virginia, Illinois, and Kentucky produce 57 times as much NOx as comparable Maine sources and that the total NOx emissions of those states is 285 times as high. If even roughly accurate, these figures reflect the massive amount of ozone influx into the Northeast OTR from states not bound by its restrictions. Letter from Angus S. King, Jr., Governor, State of Maine, to Carol Browner, Adm'r, EPA 3 (Aug. 1, 1995) (on file with author).

[239] Pennsylvania officials have considered complete secession from the Northeast OTR. *See* Aeppel, *supra* note 56, at A1. Western Pennsylvania's nonattainment results both from its own emissions and from ozone transport from Ohio and West Virginia. Border monitors reportedly "regularly" show air with 60 to 100 ppb entering Pennsylvania from the west. *See* Sharon Voas & Don Hopey, *The Air Condition is Not Cool*, PITT. POST-GAZETTE, Aug. 13, 1995, at A1. Pennsylvania industry views the inclusion of the area in the Northeast OTR as unfair because it subjects the area to control measures in excess of those required in adjacent states. *See* Harold D. Miller, *Pennsylvania Needs Parity With Neighbors in Clean Air Standards*, PITT. POST-GAZETTE, July 30, 1995, at E2. Interestingly, those of that viewpoint maintain that western Pennsylvania is only in the Northeast OTR because of Philadelphia's nonattainment, yet the data evidently establishes that Pittsburgh's air contributes to nonattainment in Philadelphia. *See* Sharon Voas & Don Hopey, *supra*.

Congress knew the potential unfairness raised by ozone transport and its legal ramifications on downwind areas with no ability to control the sources of the pollutant.[240] In response, Congress created several limited exemptions in the 1990 CAA that provide relief to certain nonattainment areas under extenuating circumstances. These explicit exemptions exist for: (i) areas suffering from international transport; (ii) rural areas without large amounts of emissions; and (iii) areas obligated to impose fines on sources. Congress created an analogous limited exemption for an area within an ozone transport region to opt out of the region under specified circumstances.[241]

The exemption for areas with ozone transport from foreign sources appears in Section 179(B).[242] Although the definition of nonattainment makes no exception for a state suffering from ozone transport from an adjoining state, the statute does grant an area special dispensation if the source of the pollution is in another country. Congress carved out this exception specifically to aid El Paso, Texas, because it suffers from serious ozone transport across the Rio Grande from Mexico.[243]

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[240] Legislators evinced their concern in connection with the regional approach to ozone reductions. Maine's Senator Mitchell expressed his concern as follows: "I expect the members of the [Northeast Ozone Transport] Commission to fairly but vigorously press for pollution control measures, particularly in upwind areas, so that downwind areas like Maine will be able to achieve cleaner air." LEGISLATIVE HISTORY I, *supra* note 170, at 789 (statement of Sen. Mitchell, Senate debate, Oct. 27, 1990). New Jersey's Senator Lautenberg expressed similar sentiments:

> Of particular importance to New Jersey is a provision I sponsored with others in the Northeast region to stop other States from sending their pollution into our States, harming the health of our residents and putting an impossible burden on our industries. This program would regulate pollutants transported from upwind States which make it impossible to achieve health standards.

Id. at 1106 (statement of Sen. Lautenberg, Senate debate, Oct. 26, 1990).

[241] EPA has developed a guidance document to implement this provision. *See infra* note 271 and accompanying text.

[242] Section 179(B) expressly provides that:

> Notwithstanding any other provision of law, any State that establishes to the satisfaction of the Administrator that, with respect to an ozone nonattainment area in such State, such State would have attained the national ambient air quality standard for ozone by the applicable attainment date, but for emissions emanating from outside of the United States, shall not be subject to Section [181(a)(2) or (5)] of this title or Section [185].

42 U.S.C. § 7509a.

[243] *See* LEGISLATIVE HISTORY IV, *supra* note 155, at 5741–42 (statement of Sen. Gramm, Senate debate, Mar. 9, 1990). Concerning the effects of transport from Juarez, Texas's Senator Gramm stated:

> It is unfair to hold El Paso accountable for pollution that is generated in a foreign country that they have no control over . . . . Unless we have a breakthrough dealing with Mexico, it is possible that we could do everything in El Paso, including having

Congress recognized that Texas had little or no ability to control pollution wafting across a jurisdictional border permeable to air. Naturally, the Connecticut River provides a frontier as open to ozone as the Rio Grande and thus Vermont and New Hampshire arguably stand in the same relation as Mexico and Texas. The rationale for the distinction is that, unlike the individual states of the United States, Mexico is not governed by the CAA and thus Texas cannot influence or obtain redress for the pollution.[244] There is no comparable blanket exemption for downwind states for domestic transport, presumably because the emissions of an upwind state are under the control of EPA via Section 110(a)(2)(D). Congress evidently recognized the unfairness to downwind areas subject to transport, but chose to provide leniency only to those that received transport from another nation rather than another state.

Congress created another exemption from arguably inequitable effects of the CAA for "rural transport areas."[245] Section 182(h) provides that if EPA determines that a nonattainment area is not within or adjacent to a metropolitan statistical area (and is hence "rural") and does not "significantly contribute" to the nonattainment of another area, EPA can designate the area a "marginal" nonattainment area regardless of the true level of nonattainment.[246] The creation of this exemption suggests an intent to avoid infliction of harsh legal ramifications for areas with few sources of ozone precursors and little transport impact upon other areas. The provision does not completely exempt the area from the regime of control measures because the

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> people stop breathing, and we still might not meet the standards that would be set out in this bill.

Id.

[244] *See Air Quality Problems On Border May Take International Cooperation, Officials Say*, Daily Env't Rep. (BNA) No. 88, D-16 (May 8, 1995). Despite this exemption, air quality officials in Texas have striven to improve the air of El Paso through international cooperation and have even considered paying for control measures in Juarez to alleviate the regional problems. *See id.* Border disputes over air quality will only increase as Mexico seeks to industrialize its economy and maximize free trade with the United States. *See, e.g.*, Tod Robberson, *Haze at the Border: Flap Over Coal Fired Plant Strains U.S.- Mexican Cooperation*, WASH. POST, Aug. 11, 1995, at A25. EPA officials are reportedly considering exerting pressure on Mexico and Canada to reduce ozone transport through mechanisms of the North American Free Trade Agreement. *See OTAG May Flex Muscle Outside U.S. Borders*, INSIDE OTAG, Aug. 1, 1996.

[245] Members of the 104th Congress have been critical of the rural-urban distinction and have proposed that the exemption should extend to all areas, regardless of population, that do not contribute to nonattainment elsewhere. *See* 141 CONG. REC. S4589 (daily ed. Mar. 24, 1995) (statement of Sen. Levin).

[246] 42 U.S.C. § 7511a(h).

area must still comply with the requirements for a marginal nonattainment area. This indicates an attempt to balance the desire to avoid potential unfairness of the transport provisions with a desire to protect the air quality of the inhabitants.

Congress created a comparable exemption from economic hardships in situations where the CAA obligates states to impose financial penalties upon sources in nonattainment areas. Section 185 provides that states with severe and extreme nonattainment areas must impose fines on all major sources in areas that fail to attain by the required date.[247] The state must continue the fines until the area attains the ozone NAAQS.[248] Given the potential cost of lingering nonattainment, it would be unfair to impose the fines if nonattainment resulted from ozone transport. Section 185(e) thus provides a limited exemption for areas that would attain but for transport. By definition, the exemption is available only to areas that have a population of under 200,000 and are thus relatively rural.[249] The exemption is also applicable only if: (i) the area can demonstrate that it is unable to reach attainment "because of ozone or ozone precursors from other areas;" and (ii) the area has "met all requirements and implemented all measures" applicable under the CAA.[250] Again, the exemption suggests a desire to mitigate perceived unfairness, but also to protect the health of the inhabitants. If the population exceeds 200,000, Congress evidently concluded that sources should pay fines regardless of the effects of transport on the area.

Further evidence of congressional cognizance of potential unfairness in the statutory regime appears in Section 176A.[251] The Section governs the creation of regional commissions to abate interstate transport of pollution from one or more states when it "contributes

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[247] *Id.* § 7511d(e). The provision provides:

> For areas with a total population under 200,000 which fail to attain the standard by the applicable attainment date, no sanction under this Section or under any other provision of this chapter shall apply if the area can demonstrate, consistent with guidance issued by the Administrator, that attainment in the area is prevented because of ozone or ozone precursors transported from other areas. The prohibition applies only in cases in which the area has met all requirements and implemented all measures applicable to that area under this chapter.

Id. Major sources in severe ozone nonattainment areas emit 25 tons or more per year of VOCs and in extreme areas emit only 10 tons or more per year of VOCs.

[248] *Id.* § 7511d(a).

[249] *Id.* § 7511d(e).

[250] *Id.*

[251] 42 U.S.C. § 7506a.

significantly to a violation of a national ambient air quality standard" in another state.[252] Section 176A also includes an express escape mechanism for states or portions of states if they cannot make a significant contribution to the solution of a transport problem.[253] States or portions thereof can secede from a regional transport commission under certain circumstances.[254] Thus, an area within a transport region can receive a de facto exemption from an otherwise required control measure. No such mechanism exists for states or areas to opt out of the statutory nonattainment designation under comparable circumstances. By implication, Congress was willing to allow an area to avoid control measures imposed by an interstate transport commission if the measures would not hasten attainment for the region as a whole. Congress was evidently unwilling to allow the same leniency for an area classified as nonattainment simply as a result of ozone transport.[255]

The existence and extent of the exemptions suggest that Congress sought to soften the effects of nonattainment on areas subject to ozone transport. Of course, the exemptions and their scope result from the legislative process and presumably reflect political compromises. The mere existence of the exemptions is, however, problematic in light of the larger scheme of the 1990 CAA. Congress directed EPA not to treat certain areas according to the provisions otherwise applicable to nonattainment areas.[256] By negative implication, Congress did intend EPA to apply the statute strictly to all other downwind areas without regard to the source of the ozone causing nonattainment.

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[252] *Id.*

[253] Section 176A(a)(2) provides, inter alia, that EPA may:

> remove any State or portion of a State from the region whenever the Administrator has reason to believe that the control of emissions in that State or portion of the State pursuant to this Section will not significantly contribute to the attainment of the standard in any area in the region.

Id. § 7506a(2).

[254] EPA has issued guidance concerning the appropriate circumstances. *See infra* note 270 and accompanying text. As a practical matter, states have evidently concluded that opting out is not always in their best interest. Maine lawmakers have railed against the Northeast OTC, but probably recognize that membership in the regional alliance gives them leverage in Washington not otherwise necessarily accorded to a small state. *See Clean Air Competition*, BANGOR DAILY NEWS, Feb. 19, 1996, *available in* WL Bangordn database.

[255] *See* 42 U.S.C. § 7506a. A bill proposed in the 104th Congress would accomplish this by requiring EPA to factor out ozone resulting from transport in attainment determinations. *See infra* Section V (discussing H.R. 581, 104th Cong., 1st Sess. (1995)).

[256] An example is nonattainment areas suffering from transport across the Rio Grande. *See supra* notes 242-44 and accompanying text.

Subtract the international transport areas and qualifying rural transport areas from the list of nonattainment areas, and the remaining areas are those that are predominantly urban or adjacent to urban areas like those of the Northeast OTR. The absence of exemptions for these types of areas suggests that Congress intended EPA to apply the statute literally to many transport areas regardless of perceived inequities.

Implementation problems of the 1990 CAA pose a threat to the effectiveness of the statute as a whole. The CAA imposes numerous obligations upon states to rectify ozone nonattainment. Many of these obligations are politically unpopular and have prompted state governments to oppose control measures Congress explicitly mandated in the CAA.[257] The severity of ozone nonattainment throughout the Northeast OTR and the imminent attainment deadlines have stimulated those states to consider ever more controversial control measures, such as the OTC LEV program that requires automobile manufacturers to sell vehicles with California emission standards throughout the northeastern states.[258] Dislike of the OTC LEV program has engendered growing dissatisfaction with the regional approach to reducing ozone transport and has emboldened some states to sue EPA[259] or to threaten to secede from the Northeast OTR.[260] The glaring illogic of forcing downwind areas to take drastic steps to counteract pollutants from upwind jurisdictions invites states to adopt a mode of resignation or defiance that may result in further delays in improving the nation's air quality.[261]

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[257] For example, critics have been especially vocal about enhanced automobile inspection and maintenance and have succeeded in forcing states to halt or suspend implementation of the control measure. Popular opposition also extends to reformulated gasoline, carpooling, and alternative energy vehicles. *See* Scott Allen, *Maine Drivers Shun Emissions Testing; Voluntary Inspections Run Up Against Hostility*, BOSTON GLOBE, Mar. 12, 1995, at 29.

[258] After protracted political wrangling and an extensive rulemaking process, EPA granted the Northeast OTC's request that it require either the OTC LEV program or an approved alternative such as the "49 State Alternative" with which the automotive industry sought to supplant the program requested by the majority of the states in the Northeast OTR. *OTC LEV Final Rule*, *supra* note 58, at 4713.

[259] *Compare* Massachusetts v. EPA, No. 95–1242 (D.C. Cir. filed May 1, 1995) *with* Virginia v. EPA, Nos. 95–1163, 95–1177, & 95–1180 (D.C. Cir. filed Mar. 14, 1995). The suit by Massachusetts alleged that EPA had failed to do enough to reduce ozone transport, whereas the suit by Virginia alleged that EPA had impinged overly upon its state sovereignty by trying to reduce ozone transport. *Id.; see also supra* note 217 and accompanying text; *infra* note 410 and accompanying text.

[260] *See supra* note 239 (discussing the latter day "Whiskey Rebellion" in western Pennsylvania that has prompted some in that state to seek secession from the Northeast OTR).

[261] Members of the 104th Congress have noted that perceived unfairness derails otherwise

IV. EPA EFFORTS TO MODERATE HARSH EFFECTS OF THE 1990 CAA OZONE TRANSPORT PROVISIONS

The perceived systemic unfairness of the CAA to downwind states has tested the stoicism of northeasterners and brought forth resentment reminiscent of the type that spurred their forebears to unload tea into Boston's harbor.[262] For example, most states in the Northeast OTR have either refused to enact or have repealed state laws to implement CAA-mandated centralized automobile inspection and maintenance facilities.[263] Unhappiness with various mandatory programs of the 1990 CAA has arisen across the country.[264] Northeast OTR states are threatening EPA to resolve the problem of transport from upwind states or face new litigation based on Sections 110 and 126.[265] EPA has attempted to work within the constraints of the 1990 CAA to develop flexible policies[266] to avoid the harsh effects of the

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useful CAA programs. *See, e.g.*, Maine's Senator Snowe who, for example, stated: "people in Maine are understandably reluctant to move forward with expensive and complicated emissions reductions measures if a significant amount of the air that accounts for the nonattainment classification is transported in from outside state boundaries." 141 CONG. REC. S5604 (daily ed. Apr. 24, 1995).

[262] *See, e.g.*, Allen, *supra* note 257, at 29 (indicating that vehicle emission test center employees feared wearing the company logo into the local bar).

[263] *See Smog: ME Plan Omits Centralized Tests; Other States Watch*, GREENWIRE (American Political Network, Inc.), July 21, 1995, at 2; *see also* John Milne, *N.E. States Reject EPA Solutions for Ozone; Maine Plan May Get EPA Approval*, BOSTON GLOBE, July 20, 1995, at 22 (noting that "opposition became fierce as residents discovered that centralized testing can take hours and that repair bills for cars that failed could run into the hundreds of dollars"). Congress has amended the 1990 CAA to restrict EPA's insistence upon centralized testing. *See infra* note 472 and accompanying text.

[264] *See, e.g.*, Rae Tyson, *'Clean Air': To Some, Dirty Words*, U.S.A. TODAY, Mar. 10, 1995, at 8A. The article enumerates grass roots campaigns against reformulated fuel in Wisconsin and New Jersey, against emissions testing in Pennsylvania, against employer trip reduction in California, and against centralized vehicle inspection in Virginia. *Id.* In Missouri, the state legislature appropriated one dollar to build inspection stations as "an obvious insult to EPA and state regulators." *See How to Clear the Air*, ST. LOUIS POST-DISPATCH, Sept. 1, 1995, at 16D.

[265] *See* John Milne, *Maine Blames Massachusetts, Others For Polluting Air*, BOSTON GLOBE, Aug. 2, 1995, at 20. Governor King put it plainly, stating that "[i]f the EPA is going to hold our feet to the fire, we want to make sure it does the same for our neighbors." *See* Andrew Kekacs, *Maine Targets Midwest, Polluting States Pressed to Pay*, BANGOR DAILY NEWS, Aug. 2, 1995. New York has already challenged EPA's exemption of the Chicago area from NOx controls. *See New York Challenges, supra* note 49. An alliance of Pennsylvania business groups has sued EPA alleging that the Agency failed to consider the effects of ozone transport from Ohio in its refusal to redesignate Pittsburgh (with 17 ozone NAAQS violations in 1995) to attainment and its redesignation of the Akron area to attainment. *See Pittsburgh Area Group Petitions For Redesignation*, Clean Air Network Online, July 15, 1996.

[266] *See, e.g., Nichols Testimony, supra* note 19 (confirming EPA's "commitment to develop common sense, flexible approaches . . . to help clean up the Nation's air in the most cost-effective

statute on areas suffering from transport, but simultaneously to encourage continued progress toward alleviation of the underlying ozone transport problem.[267] Examination of EPA's efforts illustrates continuing difficulties with the provisions of the CAA concerning ozone transport.

A. *Clarification of "Significant Contribution"*

One means of providing relief to areas subject to transport lies in EPA's own interpretation of the term "significant contribution." Section 110(a)(2)(D)(i)(I) explicitly instructs EPA to reject SIPs unless they contain provisions to prohibit in-state emissions that "contribute significantly" to air quality violations in other jurisdictions.[268] Like its predecessors, the 1990 CAA included no express definition of the term, and thus the meaning of the provision is unclear.[269] EPA has attempted to define the contours of Section 110(a)(2)(D) to protect downwind jurisdictions.

EPA may be prepared to interpret the term "significant contribution" more stringently and to apply it to restrict ozone transport. Two recent EPA pronouncements illustrate the Agency's interpretation of "significant contribution" and demonstrate how the Agency may apply the statute in future SIP reviews: (i) the final approval of the OTC LEV program for the Northeast OTR;[270] and (ii) the guidance memorandum detailing the conditions for a state or area to opt out of an ozone transport region.[271] Both Agency actions entailed an implicit

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manner possible"). The environmental community is skeptical. *See Interim Policy Would Ensure Progress Continues While PM, Ozone Rules Implemented*, Env't Rep. (BNA) No. 26, at 2244 (Mar. 29, 1996) (quoting one environmentalist as saying: "[W]hen I hear EPA talking about flexibility these days, what I hear is relaxing deadlines.").

[267] In a congressional hearing concerning ozone transport in the Lake Michigan region, the Chief of Air Toxics and Radiation for EPA Region V stated that EPA intends to grant relief to states administratively. *See Ozone Hearing*, *supra* note 208, at 10–11 (statement of G. Gulezian). Specifically, the Agency representative mentioned EPA's plan to devise a policy to aid areas subject to overwhelming transport from upwind areas with later attainment dates and a policy to ease the burden of attainment demonstration SIPs. *Id.* The goal of the Agency is to develop policies "which will not unreasonably burden states, but will help to achieve attainment of the air quality standards as expeditiously as practicable nationwide." *Id.*

[268] 42 U.S.C. § 7410(a)(2)(D)(i)(I).

[269] *See infra* Section II.

[270] *See OTC LEV Final Rule*, *supra* note 58.

[271] Memorandum from John S. Seitz, Director, Office of Air Quality, Planning, and Standards, EPA, to Edward Sullivan, Commissioner, Maine Dept. of Env't Protection (May 25, 1995) (discussing Technical Guidance for Removing Areas from the Northeast Ozone Transport Region) (on file with *Boston College Environmental Affairs Law Review*) [hereinafter *Opt-out Memorandum*].

analysis of whether one area significantly contributes to another and reflect the current Agency understanding of that term in Section 110(a)(2)(D)(i)(I). Together, the actions suggest that EPA intends to read the statute broadly to protect downwind states from ozone transport.

One articulation of EPA's interpretation appeared in the Agency's approval of the OTC LEV program recommendation by the Northeast OTC. Under Section 184(c),[272] EPA had to assess whether OTC LEV was a "necessary" control measure to allow the Northeast OTR states to attain or maintain the ozone NAAQS.[273] Section 184(c)(5)[274] incorporates by reference both Section 110(a)(2)(D)[275] and Section 110(k)(5)[276] to indicate that EPA must issue a SIP call for failure to contain a new required regional control measure.[277] Based upon these internal references, EPA reasoned that the necessity analysis of Section 184(c) and the "significant contribution" analysis of Section 110(a)(2)(D) are linked.[278] One test of a control measure's necessity is whether it is essential to eliminate a significant contribution of emissions to other states.[279] If the measure is "necessary," absence of the measure equates to a failure to prohibit "significant contribution" to nonattainment or interference with maintenance.[280] At first blush, the logic appears circular, but the provisions of the 1990 CAA compel this conclusion in the transport context. If EPA determines that a control measure is "necessary" to reduce pollutants in downwind states, the lack of that control measure by definition contributes significantly to the level of the pollutant downwind.[281]

Commenters challenged EPA's proposed final rule imposing OTC LEV because of EPA's failure to specify more fully the level of transported emissions that would be "significant."[282] The commenters con-

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[272] 42 U.S.C. § 7511c.

[273] *See OTC LEV Final Rule, supra* note 58, at 4716.

[274] 42 U.S.C. § 7511c.

[275] *Id.* § 7410.

[276] *Id.*

[277] Issuance of a SIP call is the mechanism by which EPA initiates action against the state and triggers the state's obligation to correct a perceived deficiency in its SIP. *See id.*

[278] *See* Clean Air Act: Ozone Transport Commission; Low Emission Vehicle Program for Northeast Ozone Transport Region; Proposed Rule, 59 Fed. Reg. 48,664, 48,666 (1994) (to be codified at 40 C.F.R. pt. 85) (proposed Sept. 22, 1994) (incorporating by reference Supplemental Notice of Proposed Rulemaking or "SNPRM" into the OTC LEV Final Rule).

[279] *Id.*

[280] *Id.*

[281] *Id.*

[282] *See* I OZONE TRANSPORT COMMISSION, LOW EMISSION VEHICLE PROGRAM FOR THE NORTHEAST OZONE TRANSPORT REGION: SUMMARY AND ANALYSIS OF COMMENTS, 25, 26

tended that EPA could not impose a control measure unless it could prove that failure to have the measure would contribute a particular percentage of the pollutant in another state and that this percentage exceeded a specific numerical threshold EPA had previously determined to be significant.[283] The commenters cited Section 126 cases as proof of EPA's past reliance on numerical thresholds for "significant contribution" and went so far as to claim that EPA's prior Section 126 determinations created a presumption regarding what level is "significant."[284]

EPA rejected the challenge on a number of grounds. First, the express language of Section 184, Section 110(a)(2)(D), and Section 110(k)(5) do not explicitly obligate EPA to set a specific quantitative standard.[285] To the contrary, the provisions only contemplate that EPA will determine the level in relative terms, i.e., what is significant under the given circumstances. EPA reasoned that the determination of whether a control measure is "necessary" and would prevent "significant contribution" or "interference" thus requires a case-by-case analysis. With respect to OTC LEV, EPA concluded that Northeast OTR states could not obtain the requisite fifty to seventy-five percent reductions of VOCs and NOx needed to reach attainment without the proposed control measure, regardless of the precise percentage reduction it would provide.[286]

EPA also dismissed the notion that prior findings in Section 126 cases created a presumption regarding what percentage of contribution constitutes "significant contribution" to transport.[287] EPA distinguished the Section 126 cases on the obvious grounds that they dealt with other pollutants, other types of sources, and other types of modeling problems. Given that the determination of contribution requires case-by-case analysis, such prior findings were not dispositive of the issue. EPA also went farther, however, and stated that the assessment of Section 126 differs fundamentally from that of Section 184.[288] Section 126 allows EPA to determine whether a given percent-

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(1994) [hereinafter LEV PROGRAM COMMENTS]. The primary comment challenging the final rule on this issue came from the American Automobile Manufacturers Association which opposed the OTC LEV program. *Id.*

[283] *Id.* at 26.

[284] *Id.* at 28.

[285] *See id.* at 27–28.

[286] *Id.* at 27–28.

[287] *See* LEV PROGRAM COMMENTS, *supra* note 282, at 28–29.

[288] *Id.* at 29–30.

age of contribution to another state's nonattainment is significant in the abstract. By this approach, for example, if three percent of a state's ozone results from transport, it is arguably not significant relative to the ninety-seven percent from in-state sources.[289] Under Section 184, EPA argued that it must determine whether a proposed control measure is "necessary" to achieve the total reductions needed to reach attainment. Viewed in this light, even a one percent reduction in emissions might be necessary and, thus, significant in the absence of other available control measures.[290]

EPA's explanation stopped short of providing an express definition of "significant contribution" of general applicability in the transport context. The Agency noted, however, that the necessity test at least delineates one type of "significant contribution" under Section 110(a)(2)(D).[291] EPA's final rule on OTC LEV indicates that one means of determining what is "significant contribution" is to assess whether a given reduction of contribution will aid attainment or maintenance. This approach is diametrically opposed to the former EPA analysis under Section 126 that looked primarily at the relative percentage of pollution from in-state sources and out-of-state sources to weigh the significance of the transported pollutant.[292]

If EPA follows the precedent of OTC LEV in SIP reviews under Section 110(a)(2)(D), EPA could examine the availability of practicable emission reductions and assess whether elimination of transport would make attainment or maintenance more likely instead of requiring that the transport be the predominant cause of pollution.[293] This could lower the percentage of a pollutant necessary to establish significant contribution and remove the emphasis from the relative percentage of ozone produced by in-state versus out-of-state sources. By altering its administrative interpretation of the term "significant contribution," EPA could use Section 110(a)(2)(D) and even Section 126 more effectively to stop ozone transport.

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[289] This was the scenario faced by EPA in the context of sulphur dioxide transport from Indiana to Kentucky. *See supra* note 45 and accompanying text.

[290] LEV PROGRAM COMMENTS, *supra* note 282, at 30.

[291] *Id.* at 28.

[292] *See supra* note 136 and accompanying text (discussing § 126).

[293] One might quibble that § 110(a)(2)(D)(i)(I) does not explicitly include the "necessity" test, but as EPA reasoned in its response to comments, § 184 at least establishes necessity as one means of defining a significant contribution, as evidenced by its inclusion in § 184 with a cross reference to § 110. *See* LEV PROGRAM COMMENTS, *supra* note 282, at 28.

EPA has also signaled the possibility of a more protective administrative interpretation of "significant contribution" in another context involving ozone and the Northeast OTR. EPA issued a guidance memorandum that detailed the conditions under which a state may opt out of the Northeast OTR and thereby avoid its required control measures.[294] The Agency developed the policy at the behest of Maine, but indicated that other members of the Northeast OTR have expressed similar interest.[295] The statutory authority for opting out of a transport region appears in Section 176A.[296] That provision permits EPA to excuse areas or states that do "not significantly contribute to the attainment of the standard in any area in the [transport] region."[297]

EPA's policy requires states to submit evidence to support a two-step analysis. The first step entails state submission of modeling to establish whether control of ozone precursors in the proposed opt-out area "contributes to attainment in another State in the OTR."[298] The memorandum details the precise multi-level, multi-event modeling EPA expects from the state to establish a right to exemption.[299] The required modeling is rigorous and EPA's scrutiny of the results will evidently be more so.[300] The analysis does not weigh what percentage of pollutant the area contributes to a nonattainment area.[301] Instead, the analysis is whether the area contributes any pollutant to such an

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[294] *Opt-out Memorandum*, *supra* note 271.

[295] *Id.* Maine would presumably seek exemption for some or all of the state on the theory that it only contributes ozone to Canada and thus has a prima facie case for opting out of the Northeast OTR. The right to pollute other nations is not absolute, however, and EPA may prohibit it under § 115. *See* 42 U.S.C. § 7415. Maine's Governor has signed state legislation calling for the removal of all but three counties from the Northeast OTR. *See Maine Legislature Finishes 1995 Session, Passes Air Bills, Lifts Ban on Six-Pack Rings*, Env't Rep. (BNA) No. 26, at 570 (July 14, 1995).

[296] 42 U.S.C. § 7506a(a).

[297] *Id.*

[298] *Opt-out Memorandum*, *supra* note 271, app. at 2.

[299] *Id.* app. at 2–4.

[300] *Id.* The executive director of the Northeast OTC has indicated that the policy provides "really tough tests" for an area to opt out, echoing EPA's own caution in the Opt-out Memorandum that prior studies have already established the need for regional control measures. *See Two-Part Test Would Be Required For Areas Seeking to Leave Transport Region, EPA Says*, Env't Rep. (BNA) No. 26, at 274 (June 2, 1995).

[301] The guidance memorandum states that: "If none of the trajectories [of ozone plumes] traverse another OTR State within 100 kilometers of a site having observed exceedences and within [plus or minus] three hours of the time of the observed exceedence, the trajectory analysis would support removing the area in question from the OTR." *Opt-out Memorandum*, *supra* note 271, app. at 4.

area during a violation of the ozone NAAQS. The implication is that if an area's continued use of control measures will prevent any contribution to a NAAQS violation in another area, then exemption from the Northeast OTR is inappropriate.[302]

Similarly, in the second step of the analysis the petitioning state must submit evidence to EPA concerning vehicle migration across state or area lines.[303] The state must establish that failure to have otherwise required control measures will not make these commuters exporters of pollution to other jurisdictions.[304] Although the guidance memorandum does not mandate any particular methodology for meeting this second prong of the test, the implication is that if there are commuters crossing state lines, the petitioning state has a higher burden of proof to justify the exemption from the Northeast OTR.[305]

EPA's own succinct summary of the opt-out policy is that states must demonstrate through both steps of the analysis that retention of control measures in the proposed opt-out area "would not contribute to attainment elsewhere in the OTR."[306] The opt-out policy thus arguably imposes a higher burden of proof than the CAA because it does not track the language of Section 176A which provides that the proposed opt-out area cannot "significantly contribute" to attainment elsewhere.[307] Presumably, EPA will apply the policy consistently with the statutory language and thus EPA intends the policy merely as a starting point for states to establish a prima facie case for exclusion from the Northeast OTR. Read literally, however, the memorandum suggests that the Agency plans to restrict the ability of states or areas to opt out of the Northeast OTR by raising the burden of proof. It will evidently do so, in part, by interpreting a state's "significant contribution" to attainment as a relatively small contribution to attainment. In effect, the agency has at least created a presumption that

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[302] Significantly, the policy only addresses downwind areas that have actual violations of the NAAQS. Presumably, nothing would bar states or areas that are upwind of areas without violations from leaving the Northeast OTR. This is consistent with the language of § 110(a)(2)(D)(i)(I) that only requires prohibition of significant contribution to nonattainment or interference with maintenance. Whether it would allow this same conclusion where it would interfere with PSD areas is unclear. *See* 42 U.S.C. § 7410(a)(2)(D)(i)(I).

[303] *See Opt-out Memorandum, supra* note 271, app. at 2.

[304] *Id.*

[305] The memorandum does not address the particulars of the modeling, but does state that the state must account for the change in emissions and how this would "contribute" to the attainment or nonattainment of adjacent jurisdictions. *Id.*

[306] *Id.* app. at 4.

[307] 42 U.S.C. § 7506a(a)(2).

any exacerbation of downwind nonattainment will disqualify an area from opting out of the Northeast OTR. In short, any contribution may be "significant contribution" under the proper circumstances.

Taken together, EPA's recent actions may clarify the agency's current interpretation of "significant contribution" in Section 110(a)(2)(D)(i)(I).[308] In each action, EPA has explicitly or implicitly declined to follow the approach of the Section 126 cases and has thereby created a standard potentially more protective of downwind jurisdictions.[309] Neither action fully illuminates how the Agency will decide every instance of transport contribution, but both reflect an intent to impose a higher standard. This position is consistent with the changes in the 1990 CAA that imposed more stringent standards in the review of SIPs for ozone transport impacts.[310] It is also consistent with the evolution of EPA's more active intervention to prohibit transport. Unfortunately, the EPA administrative interpretations of Section 110(a)(2)(D) shed little light on how the Agency should resolve the underlying questions of interstate equity to allocate emissions reductions between upwind and downwind jurisdictions.

It is relatively easy to find that a small percentage of contribution from an upwind state is significant. It is relatively difficult to force the upwind state to restrict its emissions when that may cripple its economy and enrage its citizens and politicians. While it is preferable to allow EPA to make such determinations on a case-by-case basis rather than by adherence to an inflexible statutory rule, the continued avoidance of the underlying issue will do little to calm either upwind or downwind state concerns. It is likely, however, that the courts will examine this question if EPA applies its recent interpretation of "significant contribution" in SIP reviews and states or environmental groups oppose the agency's conclusions.[311]

Judicial review of EPA's interpretation of the "significant contribution" language of Section 110(a)(2)(D) will likely result in confirmation of the agency reading. It is not logic that compels this conclusion, but rather the standard of review and deference courts accord agency interpretations generally. Courts review the agency reading of a stat-

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[308] *See id.* § 7410(a)(2)(D)(i)(I).

[309] *See supra* note 136 and accompanying text.

[310] *See supra* note 180 and accompanying text.

[311] EPA's application of the "necessity" standard of § 184 and the "significant contribution" standard of § 110(a)(2)(D) is among the issues raised by Virginia in its pending challenge against EPA attacking the OTC LEV Final Rule. *See* Virginia v. EPA, Nos. 95–1163, 95–1177, & 95–1180 (D.C. Cir. filed Mar. 14, 1995).

ute according to the framework the United States Supreme Court enunciated in *Chevron USA v. EPA* and its progeny.[312] Application of this standard to EPA's current interpretation of "significant contribution" should uphold the agency's reading of the statute. The CAA does not define the term explicitly. The statutory scheme and legislative history shed little direct light on the meaning of the phrase. If anything, the inclusion of the term in the 1990 CAA reflects congressional intent to incorporate the agency interpretation of the term in the earlier Section 126 cases. EPA's interpretation of the term has historically received judicial deference and will likely continue to do so.[313]

EPA's interpretation of the term "significant contribution" in Section 110(a)(2)(D)(i)(I) could provide relief to downwind jurisdictions. If the agency adopts a more restrictive definition in SIP reviews than in the past, it will reduce the amount of ozone transport to downwind states. This reduction of the actual level of transport will go far toward permitting the downwind states either to attain or fail to attain based upon their own efforts to reduce emissions. Adoption of control measures commensurate with in-state emissions will make enactment of the control measures less politically charged and more defensible as a necessary sacrifice applicable to all states equitably. As a collateral benefit, a stricter standard will eliminate transport as a disingenuous excuse for states to avoid control measures necessary to reduce in-state emissions.

B. *Extension of Attainment Deadlines for "Overwhelming" Transport*

EPA has also attempted to aid states subject to substantial ozone transport by adjusting attainment dates administratively under cer-

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[312] Under this test, a court looks first to whether the statutory language is clear and unambiguous. *See* Chevron, Inc., v. Natural Resources Defense Council, Inc., 467 U.S. 837, 842–43 (1984). If so, the court merely determines whether the agency interpretation comports with the plain meaning of the statute. *See id.* If the statutory language is ambiguous, however, the court may look beyond the language to the statutory scheme and legislative history to determine whether the agency's interpretation reflects congressional intent and is therefore a permissible interpretation. *See id.* at 843–45. The United States Court of Appeals for the District of Columbia Circuit has recently applied this approach to EPA's conformity regulations promulgated pursuant to the 1990 CAA. Environmental Defense Fund, Inc. v. EPA, 82 F.3d 451, 458–60 (D.C. Cir. 1996). In upholding the Agency's interpretation, the court noted that even if the challenger's reading of the statute was perfectly reasonable, the court must still defer to a reasonable reading of the statute by EPA. *Id.* at 458.

[313] The District of Columbia Circuit has vetted the Agency's interpretation of the terms "contribute to" in the context of its conformity rule and the statutory requirement that a specific

tain limited circumstances. A particularly knotty problem has arisen because of the staggered attainment dates Congress inserted into the 1990 CAA.[314] Section 181 provides for differing attainment dates depending upon the severity of an area's ozone nonattainment.[315] The statute permits areas with more ozone pollution longer periods to reach attainment.[316] The statute also directs areas within each classification of nonattainment to enact enumerated control measures.[317] In general, states in each category of nonattainment must enact the control measures required for the less polluted tiers of nonattainment areas, plus additional stipulated control measures.[318] This hierarchical regime would appear to treat all areas objectively based upon the relative amount of pollutants within each state and to allow states to enact appropriate control measures within a statutorily allotted time. The staggered attainment dates, however, will wreak havoc upon states subject to ozone transport from other jurisdictions.[319]

A hypothetical example illustrates the dilemma. Assume that Area A has a "severe" ozone nonattainment problem. The CAA explicitly allows this area until the year 2007 to reach attainment. Assume that Area B has a "serious" ozone nonattainment problem. The statute allows Area B until 1999 to comply with the ozone NAAQS. Area A is directly upwind from Area B and contributes to Area B's nonattainment via ozone transport. Based solely upon the ambient level of

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transportation plan "contributes to annual emissions reductions." *Environmental Defense Fund*, 82 F.3d at 458–59. The court noted that the statute did not define the term and thereby created ambiguity as to the level constituting a contribution. *See id.* at 459. The court nevertheless upheld the Agency's interpretation as reasonable even though its reading of contributions to emissions reductions could mean no reductions whatsoever. *See id.* at 460.

[314] Congress was concerned that states had not made adequate progress toward reducing ozone pollution and sought to discourage dilatory tactics by setting explicit deadlines for improvement. *See* Waxman, *Overview*, *supra* note 153, at 1742–46.

[315] The dates for attainment are as follows: (i) moderate areas have until 1996; (ii) serious areas have until 1999; (iii) severe areas have until 2005, or in some cases until 2007; and (iv) extreme areas have until 2010. *See* 42 U.S.C. § 7511(a)(1)–(2).

[316] The congressional rationale for this approach was that areas with more serious nonattainment would need longer periods to comply and that such areas should seek more aggressively to reach attainment. *See id.*; Waxman, *Overview*, *supra* note 153, at 1758–60.

[317] 42 U.S.C. § 7511(b).

[318] Thus, for example, a state with a moderate ozone nonattainment area must enact control measures required for marginal nonattainment areas plus additional control measures specified in the statute for moderate areas. *See* 42 U.S.C. § 7511a(a)–(b). A state with a serious ozone nonattainment area must impose controls appropriate for marginal and moderate areas plus those measures designated for serious areas and so on. *See id.* § 7511a(a)–(c).

[319] *See, e.g.*, 141 CONG. REC. S4589–90 (daily ed. Mar. 24, 1995) (statement of Sen. Levin describing how western Michigan's moderate ozone nonattainment areas have no hope to ever attain because of transport from more severely polluted areas).

ozone, EPA must treat Area B as nonattainment even if Area B has taken all steps required by the CAA.[320] By 1999, if not before for failure to demonstrate attainment, the CAA will require EPA to sanction Area B.[321]

In theory, EPA can use Section 110(a)(2)(D) to force Area A to alleviate the transport problem by requiring its SIP to contain provisions to prohibit sources from contributing significantly to nonattainment in Area B.[322] Unfortunately, if EPA forces Area A to enact additional control measures and reduce its ozone precursor emissions early for the sake of Area B, EPA will have denied Area A the additional time and other protections Congress explicitly afforded Area A in Section 181.[323] Area B's only direct recourse would be to seek Area A's voluntary cooperation. In a region with significant transport over numerous jurisdictions with varying attainment dates as in the Northeast OTR, the enforcement problems multiply geometrically.

In response to this anomalous result, EPA has considered selective postponement of attainment deadlines to afford relief to downwind areas that suffer from ozone transport.[324] EPA devised a special policy applicable to areas affected by "overwhelming transport" from upwind areas with more serious nonattainment and hence later attainment dates.[325] The guidance allows a downwind nonattainment area to assume the later attainment date of an upwind area under certain conditions.[326] EPA openly acknowledged that it intended to allow states to "bump up" to a later nonattainment category's attainment

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[320] 42 U.S.C. § 7511a(c)–(d). This scenario is no hyperbolic hypothetical. Michigan's Governor claims that western Michigan cannot attain by its 1996 deadline because the Chicago area with its 2007 deadline contributes 90% of the ozone in the Michigan area. *See* Wendy Koch, *Gov. Engler Still Wants Moratorium on Clean Air Rules*, GANNETT NEWS SERVICE, Feb. 9, 1995.

[321] *See* 42 U.S.C. § 7509(a)–(b). *See also supra* note 215 for general discussion.

[322] *See* 42 U.S.C. § 7410(a)(2)(D). *See also supra* note 177 for general discussion.

[323] EPA has noted this statutory inconsistency. *See* Proposed Rulemaking on Ozone Transport Commission; Emission Vehicle Program for the Northeast Ozone Transport Region, 59 Fed. Reg. 21,720, 21,729 n. 17 (1994) (to be codified at 40 C.F.R. § 51) (remarking that the restriction of upwind emissions would be "at odds with" the program of graduated attainment dates and controls).

[324] *See Areas With Transported Ozone*, *supra* note 212.

[325] Memorandum from Mary D. Nichols, Assistant Adm'r for Air and Radiation to Regional Air Div. Directors Regarding Ozone Attainment Dates for Areas Affected by Overwhelming Transport (Sept. 1, 1994) (on file with author) [hereinafter *Overwhelming Transport Memorandum*].

[326] *Id.* app. at 1. The policy is applicable not only between two states but also between two areas within the same state. *Id.* app. at 5.

date without having to adopt the mandatory control measures of the higher category.[327]

To establish its status as an area with overwhelming transport, the state must demonstrate through EPA-approved modeling that it would attain the NAAQS by its own original attainment date "but for" the overwhelming amount of ozone from an identified upwind area with a later attainment date.[328] Importantly, the policy explicitly states that an area may have to adopt more emissions control measures than otherwise required under the statute in order to satisfy this "but for" test.[329] Thereafter, the state must submit a SIP revision that includes: (i) adoption of all mandatory control measures for its original nonattainment classification; (ii) rate of progress requirements consistent with its original attainment date; (iii) a demonstration that the area can attain by the new attainment date; and (iv) modeling analysis establishing that the area could not adopt any "practicable" additional control measures to reach attainment sooner.[330] With regard to the latter point, the memorandum indicates that EPA might require a state to enact additional control measures as part of any agreement to extend the attainment date if such measures are practicable.[331]

The EPA policy also requires the active participation of the upwind jurisdiction in this process. The upwind area must submit to EPA documentation to establish: (i) its adoption of all mandatory control measures for a nonattainment area of its classification; (ii) a demonstration that the area will meet its own attainment date; and (iii) modeling analysis of whether the downwind jurisdiction can attain prior to the upwind area's attainment date.[332] The policy is less clear, however, about whether the upwind area must take steps above and

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[327] *See Areas With Transported Ozone*, *supra* note 212.

[328] *See Overwhelming Transport Memorandum*, *supra* note 325, app. at 1, 2, 5. The state must show that the transport is overwhelming by running alternative modeling scenarios assuming boundary conditions both before and after the attainment date of the upwind jurisdiction. If the first analysis does not demonstrate attainment, there may be overwhelming transport. If the second analysis assuming border conditions after the date of the upwind jurisdiction's attainment deadline does not show attainment, then there is overwhelming transport from the upwind state. If after the second analysis the downwind state still cannot attain it indicates that the downwind state has internal sources that preclude attainment. *See id.* app. at 5.

[329] *See id.* app. at 2.

[330] *Id.* app. at 2, 3.

[331] *Id.* app. at 3.

[332] *Id.* The requirement that the upwind state must provide modeling on the downwind state will presumably provide a check on abuse of the policy as the upwind state will have an interest in demonstrating that the downwind state can comply without modification of the upwind state's control measures. *See id.*

beyond those mandated by Section 181 in order to aid the attainment of a downwind jurisdiction.[333] The memorandum states that an upwind area "is not obliged to accelerate reductions" if the acceleration would be "clearly impracticable."[334] By negative implication, this suggests that EPA might force upwind jurisdictions to accelerate some control measures for the benefit of downwind areas regardless of the ostensibly immutable attainment deadlines and control measure stipulations of Section 181.[335]

EPA's Overwhelming Transport Memorandum leaves to the SIP process the precise determination of whether either adoption of an additional control measure by a downwind area or acceleration of a control measure by an upwind area is "practicable."[336] The definition of practicability is, thus, of great import. In the case of downwind jurisdictions seeking an extension, the memorandum indicates that the state must "at a minimum" analyze the impact of the adoption of the mandatory control measures under the CAA for the next higher level of nonattainment.[337] For upwind states seeking to avoid acceleration of control measures, the memorandum suggests a number of things that are clearly impracticable: (i) imposition of federal control measures when it would be impracticable for the state to enact state rules to implement the policy earlier; (ii) imposition of control measures that require long preparation that states could not have begun earlier; and (iii) imposition of any other measure that the state establishes as impracticable because of "excessive economic burdens" or for "technological" reasons.[338]

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[333] *See Overwhelming Transport Memorandum, supra* note 325, app. at 3. The policy indicates that upwind states "may have to implement additional controls," but then describes the procedure to avoid such controls. *Id.*

[334] *Id.* app. at 3. The entire provision states that:

> The upwind area is not obliged to accelerate reductions in its area when the [SIP] demonstration shows that such acceleration would be clearly impracticable in order to allow the downwind area to attain by the date generally applicable for the area's classification, or earlier than the selected new attainment date for the downwind area.

Id.

[335] *See id.* This inference is consistent with EPA's policy in other situations such as its guidance for SIP attainment demonstrations. *See* Memorandum Regarding Ozone Attainment Demonstrations, from Mary D. Nichols, Assistant Adm'r for Air and Radiation, to Regional Adm'rs, Regions I-X, at 1 (Mar. 2, 1995) (on file with author) [hereinafter *SIP Demonstration Memorandum*].

[336] *Id.* app. at 3–4. The upwind area's SIP must contain a demonstration of attainment including analysis of measures to allow the downwind area to attain. Failure to include this analysis risks an EPA finding of an incomplete submittal or disapproval of the SIP. *Id.* app. at 3.

[337] *Id.* at 2–3.

[338] *Overwhelming Transport Memorandum, supra* note 325, at 4.

The elasticity of these definitions probably allows EPA maximum maneuvering room to reach negotiated settlements between states. Despite the ambiguity as to what EPA will deem impracticable in each SIP review process, EPA has signaled that it may require more of both downwind and upwind jurisdictions as part of any attainment deadline extension. The converse is also true, however, in that EPA's policy at least contemplates extensions without any additional control measures in either jurisdiction.

Anticipating challenges to its policy, EPA preemptively included its legal rationale. First, EPA grounded the policy on its privilege to interpret ambiguous statutory provisions.[339] The staggered attainment dates in Section 181 stipulate the timeframe for attainment and the control measures for each classification of ozone nonattainment area.[340] Section 110(a)(2)(D)(i)(I), however, instructs EPA to approve only SIPs that prohibit emissions that contribute significantly to nonattainment in other jurisdictions. This latter Section further obligates EPA to enforce its application "consistent with the provisions of [title I]," thereby emphasizing that EPA must observe other statutory limitations on that power such as those in Section 181.[341] EPA considers these provisions to be contradictory because Section 181 appears to guaranty upwind nonattainment areas the statutory time limit to reach attainment and to stipulate the required control measures, whereas Section 110 purports to give EPA power to supersede that guaranty.[342] In light of this apparent conflict in the statutory language, EPA chose to exercise its authority to interpret or otherwise harmonize ambiguous statutory language in accordance with the *Chevron* test. EPA concluded that Congress could not have intended EPA to negate the graduated attainment date schedule.[343]

Assuming that the attainment date of an upwind area must be inviolate, EPA then reasoned that it would be unjust to punish a downwind jurisdiction for failure to attain if that failure unquestion-

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[339] *See id.* at 5–6.

[340] 42 U.S.C. § 7511(a).

[341] *See* 42 U.S.C. § 7410.

[342] *Overwhelming Transport Memorandum*, *supra* note 325, app. at 2, 5. The official legislative history does not completely support the conclusion that the staggered attainment dates are guaranteed without limitation. A key House of Representatives report characterized the dates as "outside limits" and stated that the "objective is to achieve the standard as early as possible with effective and enforceable measures and without gaming by the States, industry, and others." H.R. REP. No. 490, 101st Cong., 2d Sess. 229 (1990), *reprinted in* LEGISLATIVE HISTORY II, *supra* note 45, at 3253.

[343] *Overwhelming Transport Memorandum*, *supra* note 325, app. at 6.

ably resulted from transport from the upwind area.[344] EPA inferred that Congress could not have intended that result from the interplay of Section 181 and Section 110(a)(2)(D)(i)(I). EPA's guidance memorandum does not elaborate upon its analysis and merely states that it would be an "absurd" result.[345] This oblique reference presumably relates to the legal principle of absurd results that prevents an agency from enforcing a statute in an illogical way.[346] The principle has common sense appeal, but courts have been hesitant to use it except when the result of an interpretation is patently absurd in order to avoid the risk of the court finding absurdity where the legislature saw rationality.[347]

Faced with a dilemma, EPA interpreted the CAA to allow extension of attainment dates for the downwind jurisdiction to avoid punishing either upwind or downwind states in situations involving overwhelming ozone transport. Regardless of the Agency's effort to harmonize arguably conflicting provisions, environmental groups have sued the Agency alleging that the policy flagrantly violates the CAA.[348] The environmental groups contend that the language of the CAA does not provide EPA with authority to extend attainment dates in this fashion based upon the excuse of overwhelming transport.[349]

The challenge to EPA's Overwhelming Transport Memorandum is well founded. Nothing in the CAA explicitly permits EPA to allow downwind jurisdictions to assume the attainment deadline of an upwind jurisdiction. To the contrary, the CAA already contains two explicit provisions allowing extensions that are inconsistent with

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[344] *Id.*

[345] The precise explanation is that "it would be an odd or even absurd result for downwind areas unable to attain due to transport to be penalized for failure to address a problem that is beyond their ability to control." *Id.*

[346] *See generally* 2A NORMAN J. SINGER, SUTHERLAND STATUTORY CONSTRUCTION § 46.07 (5th ed. 1992). Courts have held that a literal interpretation of a statute is inappropriate when it would lead to absurd results, i.e., results clearly contrary to legislative intent. *See id.* The United States Court of Appeals for the District of Columbia Circuit recently utilized this principle to uphold an EPA interpretation of the 1990 CAA stating that because a "literal reading" of the statute would "actually frustrate the congressional intent supporting it," the court would defer to EPA's reasonable interpretation consistent with that intent. *See* Environmental Defense Fund, Inc. v. EPA, 82 F.3d 451, 468–69 (D.C. Cir. 1996).

[347] SINGER, *supra* note 346, § 46.07. The risk lies in abuse of the principle when the court simply disagrees with the logic of what the legislature intended to do. *Id.*

[348] *See* Conservation Law Found. v. EPA, No. 94–1692 (D.C. Cir. filed Oct. 31, 1994).

[349] Petitioners' Motion For Expedited Review at 5–8, Conservation Law Found. v. EPA, No. 94–1692 (D.C. Cir. filed Oct. 31, 1994).

EPA's policy. Section 181(a)(5) permits EPA to issue up to two one-year extensions of an area's attainment date if the area has fully complied with its approved SIP and there has not been more than one violation of the ozone NAAQS in the preceding year.[350] EPA's overwhelming transport policy potentially extends the attainment date beyond the extensions Congress explicitly created and does not restrict it to areas that have only limited NAAQS violations.

Similarly, EPA's overwhelming transport policy conflicts with the express provisions of Section 181(b) concerning the reclassification of an area that fails to attain by its statutory deadline. For such an area, the statute requires a reclassification by operation of law to the higher of: (i) the next tier of nonattainment; or (ii) the tier reflecting the true degree of nonattainment.[351] The statute also provides for voluntary reclassification at the request of the state to a higher classification.[352] In neither instance, however, does the provision allow the area to receive special dispensation to avoid adherence to the schedule of mandatory control measures for each classification of ozone nonattainment.[353] In this important regard, EPA's Overwhelming Transport Memorandum diverges from the statutory scheme set forth in the 1990 CAA by potentially extending an attainment date without requiring the stipulated control measures for that level of nonattainment. Whatever the fairness arguments in favor of EPA's overwhelming transport policy, it violates a cardinal rule of statutory interpretation, *viz.*, that an agency should read a statute so as to give effect to all of its provisions.[354]

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[350] Section 181(a)(5) provides:

> Upon application by any State, the Administrator may extend for 1 additional year (hereinafter referred to as the "Extension Year") the date specified in table 1 of [§ 181(a)(1)] if—
>
> (A) the State has complied with all requirements and commitments pertaining to the area in the applicable implementation plan, and
>
> (B) no more than 1 exceedence of the national ambient air quality standard level for ozone has occurred in the area in the year preceding the Extension Year.
>
> No more that 2 one-year extensions may be issued under this paragraph for a single nonattainment area.

42 U.S.C. § 7511(a)(5).

[351] *Id.* § 7511(b)(2)(A).

[352] *Id.* § 7511(b)(3).

[353] Lest there be any misconstruction of the statutory language, the available legislative history confirms that Congress intended reclassified areas to meet the requirements of the higher category of nonattainment and explicitly denied "adjustments" of deadlines. *See* H.R. REP. No. 490, 101st Cong., 2d Sess. 232–33, *reprinted in* LEGISLATIVE HISTORY II, *supra* note 45, at 3256–57.

[354] *See, e.g.*, American Textile Mfrs. Inst. v. Donovan, 452 U.S. 490, 513 (1981) (citing the "well

EPA's Overwhelming Transport Memorandum could provide relief to downwind jurisdictions if it survives judicial challenge. By allowing states to benefit by the later attainment dates of more seriously polluted upwind states, the downwind states will have a more realistic chance to attain and can avoid more drastic control measures only necessary because of ozone transport into their jurisdictions.[355] The policy would thus allow EPA flexibility to ameliorate perceived inequities under the CAA administratively in the appropriate circumstances rather than allowing a wholesale extension to all states, including those that may have failed to attain in bad faith.

C. *Adoption of an Eighty Percent Rule for SIP Submittal Acceptance*

EPA has also striven to aid states subject to transport by administratively softening some of the requirements and deadlines of the 1990 CAA. One key requirement of the CAA is for the submission of SIP revisions with attainment demonstrations, i.e., proof that the control measures in place will reduce emissions and allow the state to attain the ozone NAAQS by the applicable statutory deadline. This SIP submission must include: (i) an attainment demonstration with modeling to show attainment by the applicable deadline; (ii) a rate of progress plan to reflect a three percent reduction in ozone precursors for each three-year period until the attainment date; and (iii) evidence that the state has already enacted statutes to implement the control measures necessary to implement (i) and (ii). The deadline for the submission of attainment SIPs was November, 1994, for serious, se-

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settled" rule that an agency is to interpret a statute to give effect to all provisions where possible).

[355] EPA has not yet employed the policy to extend an attainment deadline, probably because many of the relevant attainment deadlines are yet to occur. The policy has arisen obliquely in other contexts. In connection with the redesignation to attainment of certain counties in Wisconsin, the state had alleged that the area suffered from overwhelming transport. Because the monitors for the area in fact showed no violation for 1992–94, EPA did not have to reach the issue of a violation caused by overwhelming transport and its effect upon redesignation. *See* Final Rule, Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes; State of Wisconsin, 61 Fed. Reg. 43,668, 43,672–73 (1996) [hereinafter *Wisconsin Redesignation*]. In a redesignation of an area in Michigan, however, EPA considered evidence that the area itself contributed ozone to a nonattainment area in Indiana beset by overwhelming transport. EPA found the modeling inconclusive to deny the redesignation, but retained the right to issue a later finding that the Michigan area's SIP violated § 110(a)(2)(D) and to require additional control measures to stop transport if subsequent information established the impact of transport. *See Grand Rapids Redesignation*, *supra* note 209, at 31,841.

vere, and extreme ozone nonattainment areas.[356] Many jurisdictions had difficulty in meeting the deadline.[357]

Theoretically, all states should have been able to submit a SIP to demonstrate appropriate ozone precursor reductions by the statutory deadline. Unfortunately, because of difficulties in data collection for the preliminary emissions inventory and calculation of the emissions baseline, most states were unable to comply in a timely fashion.[358] Ozone transport exacerbated the modeling and data collection problems for states attempting to devise attainment demonstrations. The time and resources necessary to obtain pollutant modeling on a larger geographic scale have made compliance more daunting than EPA originally contemplated.[359] Moreover, states were uncertain how EPA would treat upwind and downwind jurisdictions and whether EPA would require additional control measures of either jurisdiction in accordance with Section 110(a)(2)(D), or merely enforce the schedule of control measures in Section 181.[360]

The statutory deadlines of the 1990 CAA are specific and intentionally aggressive to encourage technological development.[361] The deadlines are firm unless the statute explicitly provides authority for EPA to modify them.[362] Not only must states actually meet the NAAQS for ozone by the ultimate attainment dates in Section 181, but they must also comply with a regime of interim SIP submissions and "milestone" reductions of ozone precursors at specific intervals prior to the final attainment date.[363] The inability of states to comply with the deadline

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[356] *See* 42 U.S.C. § 7511a(c)(2)(A)–(B), (D)–(E).

[357] *See SIP Demonstrations Memorandum*, *supra* note 335, at 1.

[358] EPA acknowledged that technical difficulties in data collection rendered the emissions inventories "unavoidably delayed due to unforeseen circumstances." *Id.*

[359] Both state and area authorities have encountered difficulties in performing the initial inventories of their own emissions and in developing modeling sufficient to assess the impacts of transport. Cynics suspect "footdragging" has exacerbated the delays. *See, e.g.*, *Greens Draw Line in Sand for Clean Air Enforcement*, ENV'T WK., May 4, 1995 [hereinafter *Greens Draw Line*].

[360] *Id.*

[361] The 1990 CAA was the first to impose specific deadlines for SIP submissions and SIP revisions and thus the first to test states' ability to comply with dates certain. The explicit deadlines in the statute confirm the importance of prompt, timely compliance to Congress. *See* Natural Resources Defense Council v. EPA, 22 F.3d 1125, 1130 (D.C. Cir. 1994).

[362] The Supreme Court has stated that the SIP deadlines of the CAA are unequivocal and that the statute does not permit EPA to consider such factors as technological or economic infeasibility as a reason to extend the statutory deadlines absent express authority. Union Elec. Co. v. EPA, 427 U.S. 246, 265 (1975).

[363] 42 U.S.C. § 7511a. Section 182 provides that serious, severe, and extreme nonattainment areas must submit SIP revisions that demonstrate VOC reductions of at least three percent

for attainment SIPs tested the resolve of EPA to enforce the deadlines of the CAA rigorously.

Faced with the prospect of mass noncompliance, EPA issued a guidance memorandum providing an interim policy for conditional acceptance of SIPs notwithstanding the problem of incomplete data or uncertain EPA policy regarding ozone transport.[364] The Submittal Completeness Memorandum in effect redefined the "completeness" criteria EPA normally uses to assess whether a state has fully complied with the minimum content requirements for a SIP.[365] EPA's guidance memorandum provided that the agency would consider a state's SIP submittal at least conditionally "complete" if it included: (i) fully adopted control measures to obtain at least eighty percent of the emissions reduction necessary for attainment; (ii) similar measures to obtain at least eighty percent of the reasonable further progress reduction; and (iii) a binding commitment to adopt further control measures to obtain the remaining twenty percent of reductions for both attainment and reasonable further progress.[366]

In addition, the Submittal Completeness Memorandum required a state to submit a detailed explanation of its need for further time beyond the deadline to submit additional plan elements necessary for the remaining reductions. As an illustration, the memorandum stated that EPA expected to receive a "timeline showing the State's past and future progress toward completion of modeling and rule adoption in order to justify delays" and an explanation of gaps in that timeline.[367] Significantly, EPA suggested that the need for development of regional strategies "necessary or appropriate" to abate pollution "may also be suitable explanations for certain delays."[368]

Ironically, EPA's legal rationale for this policy was based both upon a provision of the CAA and upon a recent court decision rejecting the

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per year on average from the ozone baseline for five years following enactment of the 1990 CAA or until they reach attainment. Extreme areas must continue annual three percent reductions thereafter. *Id.*

[364] Memorandum from John S. Seitz, Director of the Office of Air Quality, Planning, and Standards, to the Regional Air Directors (Sept. 1, 1994) (on file with author) [hereinafter *Submittal Completeness Memorandum*].

[365] EPA has issued regulations detailing its normal procedure for assessing completeness of a state submittal. 40 C.F.R. § 51, App. V (1995). The Submittal Completeness Memorandum states that EPA intends to modify those regulations to conform with the contents of the memorandum. *Submittal Completeness Memorandum, supra* note 364, at n.1.

[366] *Submittal Completeness Memorandum, supra* note 364, at n.1.

[367] *Id.*

[368] *Id.*

agency's prior interpretation of that same provision. Under Section 110(k)(4), EPA may "conditionally" approve SIPs, i.e., give states credit for timely compliance and thereby avoid imposition of sanctions.[369] Until recently, EPA applied this conditional approval authority generously by allowing states to make a submittal that merely contained a promise to submit rules imposing a control measure up to one year after the initial submission. The United States Court of Appeals for the District of Columbia Circuit disapproved of EPA's broad interpretation of the statute and held that Section 110(k)(4) permitted EPA to approve a submittal conditionally only when the submittal was "substantive, but not entirely satisfactory."[370] The court concluded that the CAA only empowers EPA to grant conditional approval for a SIP submittal that is predominantly complete rather than predominantly incomplete.

The court's holding created a bright-line test prohibiting agency expansion of the conditional approval mechanism to afford states extra time to comply. Confusing matters, however, the District of Columbia Circuit also held that EPA may grant a state an extension when the state was unable to make a complete SIP submittal for reasons clearly beyond its control.[371] The court therefore upheld the one-year extension contrary to the express provisions of the CAA in order to provide states relief. EPA designed its Submittal Completion Memorandum guidance with the District of Columbia Circuit's admonitions in mind, explicitly stating its conviction that a SIP with eighty percent of required reductions would constitute a substantive, if not

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[369] Section 110(k)(4) provides:

> The Administrator may approve a plan revision based on a commitment of the State to adopt specific enforceable measures by a date certain, but not later than 1 year after the date of approval of the plan revision. Any such conditional approval shall be treated as a disapproval if the State fails to comply with such commitment.

42 U.S.C. § 7410(k)(4).

[370] Natural Resources Defense Council, Inc. v. EPA, 22 F.3d 1125, 1134–35 (D.C. Cir. 1994).

[371] *Id.* at 1136–37. EPA's memorandum is silent about the circumstances that made compliance beyond a state's control. The CAA instructed EPA to issue guidance for enhanced inspection and maintenance plans by November 15, 1992, and required states to submit revised SIPs containing enhanced inspection and maintenance plans by November 15, 1993. EPA was unable to issue the guidance until 10 days prior to the deadline for the states' SIP submissions. EPA sought to use the mechanism of conditional approval to grant states a de facto one-year extension. The United States Court of Appeals for the District of Columbia Circuit expressly disapproved of the use of conditional acceptance to grant states additional time. The court held instead that states could have an additional year to comply because the statute indicated that Congress intended states to have one year after receipt of EPA guidance to devise their enhanced inspection and maintenance plans. *Id.*

entirely satisfactory SIP, especially when accompanied by a detailed explanation of why the other twenty percent of reductions must come later.[372] In essence, EPA implicitly acknowledged that modeling difficulties were a condition beyond a state's control sufficient to justify an extension.

Given the ongoing debate in resolving ozone transport problems, EPA's policy of conditionally accepting SIPs with partial reductions was one means of treating the states with a more flexible or pragmatic approach. The Submittal Completeness Memorandum encouraged states to continue work on SIP attainment plans by allowing an additional year for completion of modeling and development of plans to address ozone transport. The agency policy also encouraged states to work with neighboring states on a regional basis to devise additional control measures. As a reward for this behavior, the policy explicitly stated that EPA would consider the need for time to devise regional approaches to control ozone a prima facie explanation for a request for conditional SIP approval.

The EPA's Submittal Completeness Memorandum was not without critics, however, and environmental groups, industry groups, and a state challenged the agency position.[373] Opponents of the policy believe that EPA has no authority under the CAA or its own completeness regulations to accept, even conditionally, SIPs that contain measures to generate less than one hundred percent of the reductions needed for attainment and reasonable further progress. From a purely legal perspective, environmental groups led by NRDC alleged that EPA's conditional acceptance of eighty percent complete SIP submissions is an intentional subversion of the explicit deadlines of the CAA.[374] From a policy perspective, NRDC contended that the acceptance of SIPs with only eighty percent of required reductions will cut short the lead time necessary to develop new control strategies and meet other interim deadlines.[375] Rather than encouraging compliance with the deadline, NRDC predicted that EPA's policy

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[372] *See Submittal Completeness Memorandum, supra* note 364, at 1.

[373] The Commonwealth of Massachusetts, a Massachusetts industry trade group, national trade groups representing utilities, and a group of environmental organizations have either filed suit or sought leave to intervene in a petition for review of the policy under § 307(d) of the CAA in the District of Columbia Circuit. *See* Massachusetts v. EPA, No. 95–1242 (D.C. Cir. filed May 1, 1995); Associated Industries of Mass. v. EPA, No. 95–1235 (D.C. Cir. filed Apr. 28, 1995); Conservation Law Found. v. Browner, No. 94–1692 (D.C. Cir. filed Oct. 31, 1994).

[374] *See* Petitioners' Motion For Expedited Review at 4, Conservation Law Found. v. EPA, No. 94–1692 (D.C. Cir. filed Oct. 31, 1994).

[375] *Id.* at 4–5.

would invite dilatory behavior by states. NRDC was concerned that states would abuse any conditional approval policy to drag out the date by which it must submit an approvable SIP attainment demonstration for years.[376]

The challenges by Massachusetts and Massachusetts industry more directly attacked the Submittal Completeness Memorandum for its failure to stop ozone transport. Whatever its merits to grant states flexibility, Massachusetts alleged that the EPA policy merely allowed upwind states to "shirk responsibility" for the effects of transport on downwind jurisdictions.[377] A Massachusetts industry group alleged that the policy would unfairly impact the economy of the state rather than forcing emission reductions on the upwind sources of the ozone.[378] Massachusetts in particular wants its compliance burden eased by more stringent emission controls in the New York City area.[379]

In response to these challenges, EPA revoked the Submittal Completeness Memorandum.[380] This result is unfortunate because EPA designed the policy to permit states to submit SIPs that begin to reduce ozone, and at the same time to focus upon development of regional control measures necessary for attainment rather than fight lawsuits to stave off mandatory sanctions. The policy thus allowed EPA to obviate some of the more severe effects of the CAA such as the start of the mandatory sanctions clock for states that were working in good faith to comply with the SIP attainment demonstration requirement. Admittedly, the policy could have been subject to abuse if states used it merely to evade mandatory control measures, but the policy allowed EPA to single out dilatory states that could not adequately establish their need for additional time to obtain the remainder of the reductions.

D. *Extension of Deadlines for SIP Attainment Demonstrations*

In response to modeling delays and other complications caused in part by ozone transport, EPA has continued to attempt to modify the

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[376] *Id.* at 9–10.

[377] *See State Cooperative Effort to Investigate Ozone Transport Solutions*, INSIDE EPA, May 17, 1995.

[378] *See Utilities, Massachusetts Asks Court to Review EPA Standards for Northeast*, 1995 Util. Env't Rep. (McGraw-Hill) 14 (May 12, 1995).

[379] *See id.*

[380] EPA rescinded the Submittal Completeness Memorandum. Memorandum from John S. Seitz, Director, Office of Air Quality Planning and Standards, EPA (May 1995) (on file with author).

attainment demonstration deadlines of the CAA administratively.[381] In a 1995 memorandum, EPA issued guidance to states "significantly affected by ozone" regarding compliance with SIP attainment demonstration deadlines.[382] The SIP Demonstrations Memorandum provides an alternative means for areas with ozone nonattainment classified as serious and above to demonstrate attainment.[383] Notably, EPA's policy does not extend the ultimate attainment date for any area. Instead, the policy merely provides additional time for submission of complete attainment demonstrations.[384] The SIP Demonstrations Memorandum outlines a two-phase program in which EPA will cooperate with states to overcome nonattainment resulting from ozone transport.[385]

In the first phase, EPA requires states to submit a SIP containing specific control measures to reduce the level of ozone precursors, including reductions to meet reasonable further progress.[386] The memorandum contemplates that states in this phase will make certain interim undertakings to reduce emissions pending development of SIPs that fully demonstrate attainment.[387] EPA will assess the efficacy of these interim plans in most areas on a case-by-case basis.[388] For states in the Northeast OTR, however, the SIP Demonstrations Memorandum stipulates that the SIPs must contain all control measures mandatory under the CAA, all measures mandatory under a regional NOx memorandum of understanding entered into by the Northeast OTR states, and the OTC LEV or other equivalent alternative measure adopted by the Northeast OTR and approved by EPA.[389] Most importantly, however, the states must submit SIP revisions that contain enforceable commitments to: (i) participate in a

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[381] EPA did not describe this policy as a replacement for the Submittal Completeness Memorandum discussed above, but it does apply to the same types of nonattainment areas and remains in effect after EPA's rescission of the other policy.

[382] *SIP Demonstrations Memorandum*, supra note 335, at 1.

[383] *Id.*

[384] *Id.*

[385] *Id.* at 2.

[386] *Id.*

[387] *SIP Demonstrations Memorandum, supra* note 335, at 2.

[388] *Id.*

[389] *Id.* This memorandum differs from the rescinded Submittal Completeness Memorandum that required control measures necessary to achieve 80% of needed reductions. This policy requires adoption of all measures required by the CAA and is silent as to what will occur if these initial control measures do not provide 100% of necessary reductions. It appears that EPA is attempting to grant states the same leniency without red flagging its intention to accept SIPs that do not initially provide for complete attainment.

"consultative process" on regional transport; (ii) adopt more control measures if necessary to reach attainment; and (iii) identify reductions from other jurisdictions that will be necessary for the state to attain the ozone NAAQS.[390] Each state's new promise to work to develop regional control measures comprises the consideration for EPA's leniency on currently due SIP demonstrations.[391] This trade is fitting given that a stated reason for attainment demonstration delays has been the difficulty in coping with transported pollutants.[392]

The SIP Demonstrations Memorandum includes a second phase, in effect concurrently with the first, in which states must collaborate to evaluate additional "regional control strategies."[393] EPA is to assist states to "reach consensus" on additional control measures necessary to attain the ozone NAAQS.[394] The guidance memorandum explicitly provides that if the states are unable to agree upon such measures by the end of 1997, EPA will use its authority under Sections 126 and 110 to motivate states to meet their attainment obligations regarding transport.[395] In essence, EPA has offered to forbear from prompt exercise of those powers in order to allow states the opportunity to devise new regional solutions voluntarily.[396] In response to this phase of the SIP Demonstrations Memorandum, states formed the Ozone Transport Assessment Group (OTAG).[397]

OTAG is comprised of EPA officials, representatives of the states involved, and other interested parties including environmental groups and industry groups.[398] OTAG currently encompasses thirty-seven states east of the Rocky Mountains.[399] OTAG's goals have been to develop more accurate models to assess ozone transport and to

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[390] *Id.* at 2–3.

[391] *Id.* Although not explicit on this point, the SIP Demonstration Memorandum contains a series of deadlines by which states must have accomplished certain tasks. By implication, failure to cooperate will cause EPA to insist upon submission of the SIP by the original deadline and thus trigger potential sanctions.

[392] EPA officials have noted that the main reason for the policy is to assist states having difficulty because of ozone transport. *See Air Pollution: Two–Phased SIP Approval Policy Offers Flexibility on Ozone Attainment Plans*, Env't Rep. (BNA) No. 25, at 2181 (Mar. 10, 1995).

[393] *SIP Demonstrations Memorandum, supra* note 335, at 3.

[394] *Id.* at 2–3.

[395] *Id.* at 3.

[396] *See id.* at 1–4.

[397] *Regional Ozone Group Looks at Fuel Issues*, OCTANE WK., Oct. 16, 1995, at 1.

[398] *See Nichols Testimony, supra* note 19. A complete discussion of OTAG and the byzantine manuverings of group members is beyond the scope of this article. Interested readers may wish to explore OTAG further in the "Inside OTAG" publication which chronicles the organization.

[399] *See* Nichols, *supra* note 15.

devise new regional control measures to reduce ozone transport.[400] The group has explored a variety of measures, including: (i) expansion of the Northeast OTR to include all thirty-seven states of OTAG;[401] (ii) major reductions of NOx emissions across all thirty-seven states;[402] and (iii) development of new, cleaner automobile fuels.[403] The express purpose of OTAG is to allow states flexibility to come up with their own measures to reduce ozone transport before EPA must begin enforcement of Section 110(a)(2)(D).[404]

EPA's SIP Demonstrations Memorandum provides answers to critical transport questions under the 1990 CAA. First, in accordance with the statutory mandates of the CAA, EPA confirms that it will require states to comply with the ultimate attainment deadlines rather than granting de facto exemptions by inaction.[405] This approach will, at least officially, discourage the expectation of attainment date slippage that might tempt states to avoid politically unpopular control measures. Second, the EPA guidance allows states to adopt workable interim attainment plans subject to agency approval.[406] This stance will provide states continued flexibility to enact control measures best suited to reach attainment in their jurisdictions. EPA's guidance only requires states to enact those measures already stipulated by statute or, in the case of the Northeast OTR states, those measures that the states have already agreed to among themselves.[407] Importantly, however, the first phase requires states to agree prospectively to enact more control measures if necessary to reach attainment.[408] This implies that states must agree to impose more control measures than otherwise stipulated in the CAA for the applicable category of nonattainment. Finally, EPA confirmed its willingness to enter the fray as an active facilitator in regional efforts to address ozone transport. Rather than imposing mandatory solutions, EPA has chosen the role

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[400] *Id.*

[401] *Smog: Tighter Controls Could Affect Midwest, South*, GREENWIRE, Mar. 20, 1996, *available in* LEXIS, News Library, Greenwire File.

[402] *See* Doug Sword, *Midwest Fights Dirty Image; Blame For Pollution Called Unfair*, CLEV. PLAIN DEALER, Mar. 17, 1996, at 17A.

[403] *See Concept of OTAG-Optimized Fuel Creates Confusion*, OCTANE WK., Apr. 15, 1996.

[404] *See Nichols Testimony*, *supra* note 19.

[405] The memorandum states that the a "basic principle" of the agency's policy is to "meet attainment dates in the Clean Air Act while maintaining progress." *SIP Demonstrations Memorandum*, *supra* note 335, at 1.

[406] For example, the state may support its SIP with modeling based upon "interim assumptions" about the effects of transport or else assumed boundary conditions. *Id.* at 2.

[407] *Id.*

[408] *Id.*

of catalyst to encourage states to cooperate to find communal solutions. If states do not reach agreement voluntarily, EPA has expressly affirmed its intention to impose solutions under Sections 126 and 110.[409]

Critics have challenged EPA's policy, alleging that it does not go far enough to discourage transport from upwind jurisdictions.[410] NRDC sued for review of the policy alleging that it abrogates the deadlines of the 1990 CAA by permitting EPA to accept SIP submissions that do not "provide for" attainment by the attainment date.[411] NRDC evidently was alluding to the Section 182(c)(2)(A) requirement that states submit SIP revisions that "will provide for attainment of the ozone [NAAQS] by the applicable attainment date."[412] Massachusetts has sued for review of the policy claiming that it violates Section 110(k)(1) and (k)(3), thereby intimating that the policy allows EPA to accept SIPs that fail to meet all the applicable requirements of the CAA.[413] The state's particular concern is that the SIP Demonstrations Memorandum allows acceptance of SIPs that fail to abate interstate transport and therefore violates Section 110(a)(2)(D)(i)(I). Both suits challenge agency interpretations of the 1990 CAA and must therefore overcome the significant hurdles of a *Chevron* analysis.[414] Both suits are still pending, presumably awaiting the outcome of the OTAG process.

Thus far, EPA's approach in the SIP Demonstrations Memorandum has had mixed results. Under the first phase, states had to submit

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[409] *Nichols Testimony*, *supra* note 19, at 3. EPA has elsewhere stated its intention to utilize its authority under § 110(a)(2)(D) when necessary to stop transport. *See Lake Michigan NOx Waiver*, *supra* note 16, at 2431 (stating that the Agency will nullify an otherwise available control measure exemption if new modeling establishes an ozone transport impact).

[410] *See, e.g.*, *Greens Draw Line*, *supra* note 359.

[411] *See* Preliminary Statement of Issue to be Raised, Delaware Valley Citizen's Council for Clean Air v. Browner, No. 95–1241 (D.C. Cir. filed June 1, 1995).

[412] 42 U.S.C. § 7511a(c)(2)(A).

[413] *See* Statement of Issues, Massachusetts v. EPA, No. 95–1242 (D.C. Cir. filed May 24, 1995). The essence of the claim is that EPA's policy does not require SIPs that prevent significant contribution to air quality problems in other jurisdictions. As discussed above, however, the "significant contribution" standard remains elastic and both legally and historically has been a determination largely within the discretion of EPA on a case-by-case basis. The state's challenge to the policy must overcome the body of precedents confirming EPA's authority to interpret the standard in the § 126 cases. *See supra* notes 126–48 and accompanying text.

[414] The United States Courts of Appeals for the District of Columbia Circuit has applied this analysis stringently in recent challenges to EPA policies derived from agency interpretations of the 1990 CAA. *See* National Resource Defense Council, Inc. v. EPA, 22 F.3d 1125, 1138 (D.C. Cir. 1994) (rejecting EPA's interpretation of the phrase "take effect" in § 182 because it "strained credulity").

interim plans by the end of 1995 to meet rate of progress ozone reductions along with demonstrations of attainment and a commitment to enact other control measures as necessary.[415] In July, 1996, EPA issued a final rule finding that ten states had neither made the required submissions[416] nor were proceeding in a sufficiently expeditious manner to be considered in substantial compliance with Phase I deadlines.[417] This finding by the Agency started the mandatory sanctions clock against all of the jurisdictions.[418] The states must make the required submissions or face sanctions.[419]

Meanwhile, under the second phase of the policy, the OTAG process has met resistance from certain states and industry groups. A number of states have passed or threatened to pass legislation restricting the powers of their own representatives to OTAG to bind their states.[420] Other states have threatened to drop out of the OTAG process entirely.[421] Industry groups have mounted campaigns to oppose any new regional control measures that impinge upon their profitability.[422] Some observers are dubious that OTAG will be able to reach any consensus.[423] Other observers have been overtly hostile to the proc-

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[415] *See SIP Demonstrations Memorandum, supra* note 335, at 2.

[416] *See* Final Rule Making Findings of Failure to Submit Required State Implementation Plans for Nonattainment Areas for Ozone, 61 Fed. Reg. 36,292, 36,292 (1996).

[417] *Id.* at 36,293.

[418] *Id.*

[419] Significantly, the SIP Demonstrations Memorandum and the Final Rule both treat the states leniently because they must only demonstrate how they will obtain the initial nine percent of rate of progress reductions rather than the full 15% contemplated by the statute. *See SIP Demonstrations Memorandum, supra* note 335, at 2.

[420] Virginia and Illinois have placed restrictions on their participation in any OTAG proposals. *See States Bailing Out of OTAG, Passing Laws to Limit Involvement*, OCTANE WK., June 10, 1996.

[421] *Id.* Nebraska, Kansas, North Dakota, and South Dakota are reportedly considering opting out of OTAG entirely. *Id.* Most states are unlikely to opt out because they would lose the right to help shape the OTAG recommendations to EPA. *Id.*

[422] Automobile manufacturers feel that "designer fuels" proposed by OTAG will impair driveability and result in customer dissatisfaction. *See GM Warns Against "Designer Fuels"*, INSIDE OTAG, Aug. 1, 1996. Oil companies are likewise concerned about the reliance on a "mystery fuel" that OTAG might require to reduce emissions. *See Concept of OTAG-Optimized Fuel Creates Confusion*, OCTANE WK., Apr. 15, 1996. Midwestern coal mining and utility interests oppose additional NOx controls to limit transport into the Northeast OTR. *See Coal, Rail Interests Working to Delay National Ozone Transport Standard*, Env't Rep. (BNA) (Nov. 10, 1995). Industry associations have even formed their own "Midwest Ozone Group" to generate studies and reports to counter those of OTAG. *See Industry Study Predicts Huge Pricetag From Creation of Ozone Mega-Region*, ENV'T WK., Dec. 1, 1995.

[423] For example, mixed results from OTAG-sponsored modeling of ozone transport have caused rifts between various members of OTAG, especially Midwest members balking at expensive control measures to benefit the Northeast OTR states. The chairperson of OTAG has

ess.[424] In spite of these difficulties, officials at EPA have reiterated the Agency's intention to utilize Section 110(a)(2)(D) and Section 126 against any state that fails to follow through with commitments made through OTAG.[425]

EPA's SIP Demonstrations Memorandum should aid downwind states "significantly affected by ozone."[426] It requires states to submit a SIP that includes the mandatory control measures for the area's designated nonattainment classification.[427] Compliance with the stipulated measures does not excuse the state from enacting control measures to counteract ozone from upwind states. For example, if an area is severe rather than serious because of transport, it must still enact the control measures for a severe ozone nonattainment area. This obligates states to continue to implement programs necessary to protect the health of its citizens. The relief to downwind states arises from EPA's requirement that all states agree to participate in cooperative efforts on regional transport, and that all states expressly agree to adopt more stringent control measures than otherwise required under the CAA. The SIP Demonstrations Memorandum is also important because EPA has asserted its willingness to assume a more active role in reduction of transport from upwind jurisdictions and an intention to reject SIPs of states that do not participate in the regional process. EPA is only deferring action under Section 110(a)(2)(D)(i)(I) for states that act in good faith to devise additional control measures in cooperation with their neighbors.

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commented that there "will be some heated policy decisions in the next several months." *See* Nichols, *supra* note 15. The Governor of Maine has stated that "Maine businesses and people should not have to bear the cost of economic windfalls realized by dirty upwind utilities." *See Air From the Feds*, BANGOR DAILY NEWS, May 20, 1996. After a preliminary ozone study was less conclusive about transport than expected, an Ohio EPA official suggested that the study "says to Northeast [OTR] states, 'You fix your cars, and then we [in the Midwest] will talk about spending $5 billion to fix our power plants.'" *See Smog: New Study Disputes Midwest Role in Northeast Problem*, GREENWIRE (American Political Network, Inc.), Sept. 5, 1996, at 2.

[424] *See, e.g., Testimony of Dr. Kay H. Jones Before the Subcomm. on Oversight and Investigations of the House Comm. on Commerce*, 104th Cong., 1st Sess., Nov. 9, 1995 (contending that OTAG is unauthorized and should be abolished along with the Northeast OTC); Eric Peters, *Motorists Beware of the OTAG Monster!*, WASH. TIMES, Sept. 4, 1996, at A14 (describing OTAG as a "multi-jurisdictional hydra encompassing 37 states from Maine to Texas for the purpose of bringing the swagger stick of government down on the heads of motorists and the automobile industry").

[425] *OTAG States Failing To Abide By Commitment Can Be Required To Take Action, EPA Official Says*, Env't Rep. (BNA) No. 27, at 781 (Aug. 2, 1996) (quoting Assistant Adm'r for Air and Radiation Mary Nichols' statement: "We have the statutory authority and the political will.").

[426] *SIP Demonstrations Memorandum*, *supra* note 335, at 1.

[427] *Id.*

E. *Changes in NAAQS and Modeling Assumptions*

Another alternative solution to relieve downwind states is to change the border assumptions in computer modeling of ozone pollution.[428] Currently, states must utilize either the Regional Oxidant Model (ROM), the Urban Airshed Model (UAM), or a combination of the two in order to perform attainment demonstrations in the SIP process.[429] Regardless of which model is appropriate, states in the Northeast OTR except for Vermont will have difficulty establishing that they can reach attainment.[430] For example, if air crossing the border between New York and Connecticut is already at the NAAQS for ozone, then Connecticut cannot add another molecule of ozone precursors without risking a violation of the standard.[431] Both the ROM and UAM models currently factor in the actual amount of ozone measured or estimated at the border of each state, and give no credit or offset for ozone crossing the border from another state.[432]

One possible approach to alleviate the legal ramifications of transported ozone on downwind areas would be to change the standard for the border conditions in the computer models. Instead of setting the border assumptions at a level where the downwind state cannot emit anything, EPA could set those standards so as to give the state credit for the amount of the pollutant transported from adjacent jurisdictions.[433] The downwind state could thus avoid punishment for violations that result wholly or in part from ozone transport from the

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[428] *See* LEV PROGRAM COMMENTS, *supra* note 282, at 36–88. The proper geographic scope and assumptions of modeling were a major source of conflict in the OTC LEV process. *Id.*

[429] EPA has promulgated a general guidance document on computer modeling in "Guideline on Air Quality Models Revised," 40 C.F.R. § 51, app. W (1995). EPA has also generated guidance specifically concerning ozone transport in accordance with § 184(d) in "Criteria for Assessing the Role of Transported Ozone/Precursors in Ozone Nonattainment Areas," EPA REPORT 450/4–91–015 (1991). It is unclear whether states must use ROM, UAM, or a "nested" combination of the two in order to demonstrate attainment. The lack of sufficient data for UAM models was at least one reason EPA had to rely exclusively on the ROM model to determine the efficacy of the OTC LEV control measure on the entire Northeast OTR.

[430] *See* OTR TECHNICAL SUPPORT DOCUMENT, *supra* note 23, at 2.

[431] Just such situations exist in the Northeast OTR. *See, e.g.*, Sharon Voas, *Smog Sneaks In*, PITT. POST-GAZETTE, May 19, 1996, at A1 (noting that monitors in rural southwest Pennsylvania registered readings at or above the ozone NAAQS before the air even reached Pittsburgh on the days that Pittsburgh violated the NAAQS in 1995).

[432] Some states subject to ozone transport have pressured EPA to change this. Both of Pennsylvania's senators have petitioned EPA to declare the Pittsburgh area in attainment because transport contributes to the area's pollution. *Id.*

[433] Members of the 104th Congress have proposed such a solution to the transport problem by changing the definition of nonattainment. *See infra* Section V (discussing pending legislation).

neighboring state, and the downwind state could utilize the full increment of precursor emissions permitted by the CAA.

EPA theoretically has the ability to reconcile the problem in this fashion because Congress empowered the Agency to establish the NAAQS by regulation rather than explicitly setting forth the NAAQS by statute.[434] Because EPA has the authority to set the level of the NAAQS, EPA arguably has the power to set that number differently in different contexts to account for the effects of ozone transport.[435] Likewise, the Agency has authority to design the models necessary to assess attainment or nonattainment for pollutants. For the most part, the 1990 CAA leaves the specifics of these models for EPA to determine through appropriate rulemaking procedures.[436] Given that both the NAAQS and the models are arguably within EPA's discretion to establish, EPA could change the border assumptions through the rulemaking process to negate the impact of ozone transport.[437] Assuming that the Agency follows the proper procedures and generates a rational basis for the changes, EPA's action would likely survive a judicial challenge. Courts have consistently held that EPA is best situated to make determinations based upon scientific information in furtherance of its duties under protective statutes like the CAA and courts therefore grant great deference to EPA ac-

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[434] *See* 42 U.S.C. § 7409.

[435] For example, some critics suggest that EPA should base the NAAQS on the average ozone level over eight hours instead of the current one hour peak. This change would make the ozone NAAQS less stringent because ozone production typically peaks during a certain portion of the day and then dissipates. If the peak is the average over eight hours it will usually be lower than the highest one hour peak. *See* Tim Bonfield, *Some Say Smog Law Too Strict*, CIN. ENQUIRER, Aug. 22, 1995, at A1.

[436] In the case of models for ozone transport, Congress has instructed EPA in § 184(d) to issue criteria for evaluating the level of contribution of sources in one area to the nonattainment in another and has stipulated only that the criteria must require the "best available air quality monitoring and modeling techniques." 42 U.S.C. § 7511c(d). Even this direct instruction, however, merely requires EPA to exercise its discretion to determine what is the best available under the circumstances. *Id.*

[437] The potentially outcome-determinative nature of such modifications is reflected in the current debate over changing the ozone NAAQS as a means to transmogrify nonattainment areas into attainment areas instantly without enacting additional unpopular control measures. *See supra* note 39. One member of Congress has introduced a bill to stipulate the averaging period, the concentration level, the monitoring, and the number of exceedences permitted per year, thereby depriving EPA of authority to set these standards. *See* H.R. 3446, 104th Cong., 2d Sess. § 108 (1995). Observers have opined that the cumulative effect of this bill will be "relaxing regulations for roughly 87 refineries and petrochemical plants" in the congressman's district. *See Draft Bill Would Repeal Parts of Air Act In Attempt to Help Petrochemical Industry*, Env't Rep. (BNA) No. 27, at 5 (May 3, 1996).

tions.[438] The interpretation and use of computer modeling information is particularly within the province of EPA's discretion and expertise.[439]

Notwithstanding the apparent ease with which this approach might alleviate some of the impact of the CAA on downwind jurisdictions, EPA should not follow this course because it will conflict with the explicit policy goals of the statute.[440] The declaration of purposes of the CAA contains an unequivocal statement that Congress intended the statute "to protect and enhance the quality of the Nation's air resources so as to promote the public health and welfare and the productive capacity of its population."[441] In addition, Section 109(b)(1) expressly instructs EPA to establish the NAAQS to provide "an adequate margin of safety" to protect human health.[442] Were EPA to change the border assumptions in the computer models, the Agency would potentially allow a drastic increase in the levels of ozone throughout the Northeast.[443]

A change in the model assumptions that would give each state a clean slate for ozone might be defensible in a situation in which the downwind state did not have significant emissions of ozone precursors and therefore the citizens of that state did not risk exposure to significantly elevated levels of ozone. The closer the downwind area's actual ozone level to the NAAQS, the less objectionable the modeling change. The alteration of model assumptions might also be defensible if the effects of ozone transport did not extend beyond the borders of

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[438] *See, e.g.*, Ethyl Corp. v. EPA, 541 F.2d 1, 36 (D.C. Cir.), *cert. denied*, 426 U.S. 941 (1976). Those decisions within the scope of EPA's authority and expertise are granted great deference and generally survive attacks on decisions or rulemaking activities. *Id.*

[439] *See* New York v. EPA, 852 F.2d 574, 580 (D.C. Cir. 1988), *cert. denied sub nom.* Maine v. EPA, 489 U.S. 1066 (1989).

[440] Recent pronouncements by Agency officials indicate no intention to back off this directive of the 1990 CAA. *See, e.g., Nichols Testimony, supra* note 19 (noting that the agency could either ignore the quality of the air at the borders and force downwind areas to enact stricter controls or else work for more cost effective means to control transport from upwind areas, *i.e.*, ignoring the pollution was not an option enumerated).

[441] 42 U.S.C. § 7401(b)(1). The definition of effects on welfare in § 302(h) is extremely inclusive:

> All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other air pollutants.

Id. § 7602(h).

[442] *Id.* § 7409(b)(1).

[443] For example, a Rhode Island monitor on the border with Connecticut reportedly registers ozone levels at or near the ozone NAAQS regularly. *See* Wyss, *supra* note 29. Exclusion of this ozone could thus expose Rhode Island residents to twice the ozone NAAQS.

the next adjacent jurisdiction and therefore did not result in a domino effect. In the Northeast OTR, however, such a change without stricter limitations on emissions would have disastrous effects. For example, an air current that traveled a straight line from Virginia to Maine could cross the borders of eleven jurisdictions. If the approved model allowed each state credit for the level of ozone transported across its borders, and permitted it to emit precursors to create the full amount of ozone allowed by the NAAQS within its borders, there could theoretically be eleven times the current legal standard. In reality, the meteorological and chemical processes involved with ozone transport defy so simple a calculation of the end result, but one may assume that the actual level of ozone could easily exceed the current permissible levels.

Similarly, EPA should resist efforts by some states to make outcome-determinative changes in data collection.[444] Critics of the CAA are fond of denigrating the accuracy of the data by pointing out the limited number of monitors and the small number of violations at any given monitor necessary to establish nonattainment.[445] A number of jurisdictions desire to move or deactivate certain air quality monitors as a means of changing their nonattainment classification.[446] For example, some Rhode Island officials wish to dispense with a specific monitor because it registers ozone transported across the border from Connecticut.[447] Without further information, it is difficult to assess whether this change would improve the accuracy of modeling in Rhode Island or merely subvert the modeling process.[448] Viewed in

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[444] There are already serious problems with state underestimation of emissions and overestimation of reductions. *See* RETHINKING OZONE, *supra* note 1, at 67–91.

[445] *See, e.g., If Virginia Prevails in Suit, Clean Air Act to be Unconstitutional, Allen Testifies*, State Env't Daily (BNA) No. 57, at D–21 (Mar. 24, 1995) (explaining the statements of Virginia's Governor who demonstrates his dislike of the CAA by contending that the Hampton Roads area went from marginal to moderate nonattainment because of five episodes in three years that comprised fewer than ten hours out of the 26,000 hours in that three-year period); *see also Attack of the Ozone Troopers*, THE DETROIT NEWS, July 24, 1995, at A6 (complaining that after four violations over a three-year span the current heat wave "may inspire the feds to come marching in").

[446] The location of monitors can be crucial. For example, in the redesignation of Grand Rapids, Michigan, EPA relied upon data from two counties comprising the nonattainment area. *See Grand Rapids Redesignation*, *supra* note 209. In so doing, EPA declined to include data from monitors in adjacent counties that commenters contended registered enough violations to halt the redesignation. *Id.*

[447] *See* Wyss, *supra* note 29. Critics are unhappy with a West Greenwich, R.I., monitoring station that they believe penalized the state for air emanating from the New York City area.

[448] Data from 1995 indicates that transported ozone registered at the monitor is not the sole cause of the state's violations. *See* Bob Wyss, *Bad Air May Mean Tougher Car Checks*, PROVI-

the best light, one must question why a state would want to deactivate a monitor that helps establish the contribution of another state to its nonattainment.[449]

Comparable efforts are afoot to reduce the size of nonattainment areas as much as possible and thereby to minimize the geographic scope of required control measures. For example, some California politicians want to redraw the boundaries of the air quality district that contains the Mojave Desert.[450] They claim that the area has a higher than necessary nonattainment classification because the monitoring for the area includes data from a specific monitor affected by air from the Los Angeles basin.[451] Characterizing the current boundaries as "gerrymandered," state politicians want to redraw the boundaries to change the nonattainment classification.[452] In this instance the modification of area boundaries may arise from the purest motives, but that presupposes that the state itself previously drew the boundaries without regard to proper meteorological analysis.

Historically, states designated air quality control regions based primarily upon political considerations such as county or city boundaries with little emphasis upon meteorological considerations. Creation of nonattainment areas based upon political expediency already has resulted in areas with arbitrary borders with little hope for attainment because they fail to encompass necessary emissions sources.[453] Wholesale redefinition of modeling boundaries for the mere purpose of changing nonattainment classifications will lead to inevitable abuse. Rather than redrawing air district borders based upon appropriate scientific criteria, the redrawn borders may derive solely from political criteria. EPA should reject unjustified efforts to modify nonattain-

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DENCE JOURNAL-BULLETIN, Sept. 22, 1995, at 1A. The monitor registered levels in excess of the standard during three of the four violations of 1995, but other monitors in the state registered the violations as well. Rhode Island environmental officials have acknowledged that the state cannot blame the problem solely upon transport. *See id.*

[449] By contrast, other jurisdictions are setting up new monitors for the express purpose of demonstrating the level of transport into their jurisdiction. *See New Site in PA to Monitor Ozone from Other Areas*, CLEAN AIR NETWORK ONLINE TODAY, Aug. 6, 1996 (noting the creation of a new monitor to provide data on transport for OTAG).

[450] *See* Ray Sotero, GANNETT NEWS SERVICE, July 19, 1995, *available in* 1995 WL 2901772.

[451] *Id.*

[452] *Id.*

[453] *See, e.g.*, Andrew Melnykovych, *Getting Rational About Ozone*, COURIER-JOURNAL (Louisville, Ky.), Sept. 12, 1995, at 9A (describing the absurdity of Louisville, Kentucky's "gerrymandered" nonattainment area that failed to include significant emissions sources in the immediate vicinity and required gas stations on one side of a street to sell reformulated fuel but not those on the other side).

ment status through the manipulation of borders or the placement of monitors. If states desire to redraw area borders, EPA should require new areas based upon appropriate meteorological considerations.[454]

EPA is currently considering significant changes in ozone monitoring in connection with the change of the ozone NAAQS.[455] This change would potentially entail averaging of monitoring data across an area and weighing monitoring data to reflect population density.[456] Also under consideration is reliance less upon individual areas for management of ozone control and more upon larger regional efforts, with the regions more reflective of the location of unhealthy air rather than existing political boundaries.[457] These types of changes may relieve pressure upon areas subject to transport and help to alleviate the perception that the 1990 CAA imposes inequitable emissions restrictions based upon arbitrary criteria such as the placement of monitors or the boundaries of political jurisdictions.

V. Legislative Proposals of the 104th Congress

Members of the 104th Congress have introduced a large number of bills to amend the 1990 CAA. Many of the legislative proposals specifically address the concerns of states with nonattainment areas. The majority of these bills focus on limited issues: (i) elimination of mandatory employer trip reduction measures;[458] (ii) elimination or modification of vehicle inspection and maintenance measures;[459] (iii)

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[454] Section 107(c) grants EPA the power to designate interstate and intrastate air quality regions. *See* 42 U.S.C. § 7407. The provision implicitly contemplates creation of areas with boundaries based upon meteorological facts of life rather than state or county borders. *See id.*

[455] *See* 61 Fed. Reg. 29,719 (1996) (to be codified at 40 C.F.R. § 50).

[456] *See* Alec Zacoroli, *Spatial Population Weighted May Undercut Tighter PM, Ozone Standard*, Daily Env't Rep. (BNA) No. 131, at A–5 (July 9, 1996). Critics are skeptical of this approach because they view it as an attempt to "set a tighter standard but at the same time dull the potential effects in terms of the number of non-attainment areas that are going to be created." *Id.*

[457] *See Regional Approach To Area Designations Recommended For Ozone, Particulate Rules*, Env't Rep. (BNA) No. 29, at 814 (Aug. 9, 1996) (describing recommendations of EPA's Clean Air Advisory Committee).

[458] *See, e.g.*, H.R. 325, 104th Cong., 1st Sess. (1995); S. 235, 104th Cong., 1st Sess. (1995). Congress passed H.R. 325 as Pub. L. No. 104–70, § 1, 109 Stat. 773 (codified as amended at 42 U.S.C. § 7511a(d)(1)(B)). One notable exception appears in § 107 which grants EPA the power to designate interstate and intrastate air quality regions. 42 U.S.C. § 7407.

[459] *See, e.g.*, H.R. 46, 104th Cong., 1st Sess. (1995); S. 236, 104th Cong., 1st Sess. (1995). Congress passed a bill regarding inspection and maintenance issues that restricts EPA's reliance upon centralized testing and maintenance for automobiles. *See* S. 440, 104th Cong., 2d Sess. (1996), Pub. L. No. 104–59, Title III, § 305(b), 109 Stat. 580 (codified as amended at 42 U.S.C. § 7506(c)(5)).

elimination of requirements for reformulated gasoline;[460] (iv) moratoriums on enforcement action or sanctions by EPA against states;[461] (v) extensions of the attainment deadlines;[462] or (vi) rebukes against EPA.[463] The more extreme bills propose repeal of the CAA[464] or its constituent parts.[465] The less extreme bills merely direct EPA to reconsider its regulations for a specific control measure such as centralized vehicle testing and maintenance.[466] Most of the bills respond to popular outcry over certain control measures that inconvenience drivers.[467] Others reflect thinly disguised attempts to gut environmental regulations because of anti-federal government fervor.[468] A number of bills propose to rein in EPA by statutorily requiring cost-benefit analysis in setting the ozone NAAQS or other agency determinations formerly premised primarily on adequate protection of human health.[469] Many bills appear to be attempts to achieve the goals of the 1990 CAA by moving the goalposts.[470]

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[460] *See, e.g.*, H.R. 1052, 104th Cong., 1st Sess. (1995).

[461] *See, e.g.*, H.R. 1602, 104th Cong., 1st Sess. (1995); S. 375, 104th Cong., 1st Sess. (1995).

[462] *See, e.g.*, S. 1021, 104th Cong., 1st Sess. (1995).

[463] *See* H.R. 3824, 104th Cong., 2d Sess. (1996) (proclaiming a bill "for the refunding of expenses incurred by innocent persons in the State of Maine required to comply with automobile inspection and maintenance requirements negligently imposed by [EPA]").

[464] *See* H.R. 479, 104th Cong., 1st Sess. (1995).

[465] *See, e.g.*, H.R. 473, 104th Cong., 1st Sess. (1995) (repealing all hazardous air pollutant provisions); H.R. 474, 104th Cong., 1st Sess. (1995) (repealing all acid rain provisions); H.R. 475, 104th Cong., 1st Sess. (1995) (repealing all stratospheric ozone protection provisions).

[466] *See* S. 248, 104th Cong., 1st Sess. (1995) (directing EPA to reconsider its regulations for vehicle emissions testing and suggesting that the agency find a way to approve decentralized testing). Presumably this bill is moot given the passage of S. 440. *See supra* note 459.

[467] Ironically, other statutory changes demanded by voters are on a collision course with the 1990 CAA. Recent repeal of the 55 miles-per-hour speed limit in many states will result in additional pollution from mobile sources that must be offset by more stringent controls elsewhere. *See Additional Controls May Be Needed in States that Raise Speed Limits, EPA Says*, Env't Rep. (BNA) No. 26, at 1990 (Feb. 16, 1996).

[468] *See, e.g.*, *Let's Lift Federal Burdens*, ROLL CALL, Apr. 3, 1995 (discussing Virginia Congressman Bliley's polemic against "nit picking federal environmental rules and regulations"); *see also Some Folks Who Still Like the EPA*, ST. LOUIS POST-DISPATCH, Aug. 13, 1995, at 4B (quoting Texas Congressman DeLay as saying that "the EPA, the Gestapo of government, pure and simple, has been one of the major claw hooks that the government has maintained on the backs of our constituents.").

[469] *See* H.R. 3519, 104th Cong., 2d Sess. § 13 (1996); H.R. 3446, 104th Cong., 2d Sess. § 104 (1996). Environmentalists characterize these types of amendments as a "direct assault" on the protection of human health. *See Texas Rep. Barton Unveils Bill to Amend Clean Air Act; No Action Likely in 1996*, 1996 Util. Env't Rep. (McGraw-Hill) 1 (June 7, 1996).

[470] *See, e.g.*, H.R. 3446, 104th Cong., 2d Sess. (1996) (proposing to allow five violations of the ozone NAAQS per year, as well as to redefine a violation to mean a continuous ten hour period above the standard and to require EPA to ignore violations in years with "anomalous meterological conditions").

The 104th Congress has passed two measures with the net effect of weakening two stringent control measures required in the 1990 CAA, mandatory employer trip reduction measures[471] and centralized automobile emissions testing,[472] thereby potentially exacerbating ozone transport. Piecemeal dismemberment of the 1990 CAA is not without consequences. For example, dilution of EPA's centralized inspection and maintenance program and the alleged delay tactics by some states have rendered compliance with the rate of progress requirements of Section 182 impossible.[473] It is unclear how areas in the Northeast OTR such as Washington, D.C., can possibly obtain the same emission reductions without the measure.[474] Environmental groups have sued EPA, demanding that it fulfill its statutory obligation to develop a federal implementation plan and impose it upon recalcitrant states.[475] Similarly, elimination of mandatory employer trip reduction measures is seen by some as evidence of lack of political will to take unpopular stances.[476]

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[471] The 104th Congress amended § 182(d)(1)(B) to make the employer trip reduction control measure discretionary rather than mandatory. Critics of the measure had argued that it was too onerous and expensive for employers and the emissions reductions too small to justify it. *See* 141 CONG. REC. S18,573 (daily ed. Dec. 13, 1995) (statement of Sen. Santorum regarding H.R. 325). Significantly, the Amendment does not dilute the other provisions of the 1990 CAA and if a state chooses not to institute the control measure, it must still meet the ozone NAAQS and attainment deadlines. One of the supporters of the bill, Senator Baucus, stated that he supported the bill because it preserved the CAA "[b]ut where there are efforts to roll back our standards, to weaken the protection of human health and the environment, then we must stand firm against such changes." *See id.* (statement of Sen. Baucus).

[472] In response to criticism of EPA's development of mandatory centralized automobile emissions inspection, the 104th Congress included a provision in the National Highway Designation Act of 1995 to redirect the agency. It has forbidden EPA from requiring centralized testing or automatically reducing the credit given to emissions reductions if the state chooses another type of inspection and maintenance program. *See, e.g.*, H.R. 325, 104th Cong., 1st Sess. (1995); S. 235, 104th Cong., 1st Sess. (1995). Congress passed H.R. 325 as Pub. L. No. 104–70, § 1, 109 Stat. 773 (codified as amended at 42 U.S.C.A. § 7511a(d)(1)(B) (West Supp. 1995)).

[473] *See Environmental Groups Sue EPA to Enforce VOC-Reduction Requirements in Three Cities*, Env't Rep. (BNA) No. 27, at 461 (June 19, 1996).

[474] *Id.*

[475] *Id.*

[476] Cynics view amendment of this Section as an example of lawmakers' unwillingness to risk unpopular positions. *See* Don Behm, *Showdown Over Ozone Could Cost State Millions*, MILWAUKEE JOURNAL SENTINEL, Aug. 21, 1996, at 13 ("the goal of prodding people out of their cars has evaporated like so much ether"). Representatives of industry are concerned that their clients will bear the brunt of amendments to the CAA that eliminate control measures unpopular with the public. *See Mining, Power Expecting To Pay Tab of Cutting Mega-Control-Area NOx*, 34 AIR/WATER POLLUTION REPORT'S ENV'T WK. § 7 (1996) (quoting an attorney representing utility interests as saying "if you're serious about solving the problem, then look at all sources and go after them").

Of the remaining legislative initiatives under consideration by the 104th Congress, few strike at the heart of the statutory or policy problems of the 1990 CAA or aid EPA in implementing the statute more effectively. There are four pending bills that warrant closer examination because they illustrate issues under consideration by Congress: (i) H.R. 1582; (ii) H.R. 581; (iii) H.R. 3519; and (iv) S. 721.

The House of Representatives is considering one bill that directly addresses the problems of downwind states suffering from ozone transport. H.R. 1582 proposes an amendment to Section 181(a) of the 1990 CAA to require the reclassification of downwind nonattainment areas to factor out the effects of ozone transport.[477] The bill provides that EPA will reclassify areas "to reflect an adjusted ozone design value which excludes ozone concentrations attributable to transport from an upwind area."[478] If the subtraction of the ozone from transport makes the area "attain" the NAAQS, the bill proposes to require EPA to redesignate the area as attainment.[479] In essence, H.R. 1582 instructs EPA to make nonattainment calculations excluding the ozone resulting from transport, regardless of the true air quality of the area.[480]

H.R. 1582 makes this relief widely available by defining a "downwind nonattainment area" broadly to include "a nonattainment area where the air entering the area at the upwind boundary already contains ozone or ozone precursors."[481] This means of avoiding nonattainment status is thus theoretically available to all areas with any amount of transport. Those areas with the largest proportion of ozone from transport will benefit the most by the change of policy, i.e., a nonattainment area with no emissions sources will receive the most relief, whereas a state whose own emissions are already at or near

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[477] H.R. 1582, 104th Cong., 1st Sess. (1995).

[478] *Id.* § 1(a).

[479] *Id.*

[480] Of course, the same artificial results are obtainable through other means without any actual emissions reductions. Another bill would accomplish the same outcome by statutorily defining a violation of the standard as an average concentration of 0.10 ppm over an eight-hour period at two monitors in the area with four violations allowed per year. *See* H.R. 3446, 104th Cong., 2d Sess. § 108 (1996). A study commissioned by the American Petroleum Institute reportedly concluded that if EPA sets the standard as an eight hour concentration of .105 ppm with only three allowed exceedences, based upon 1993–95 data there would only be 19 nonattainment areas nationwide. *See Standard Process for Ozone, PM to be Coordinated Under New EPA Process*, Env't Rep. (BNA) No. 27, at 372 (May 31, 1996). House Bill 3446 would presumably drastically reduce the number of nonattainment areas without any change in the actual level of ozone pollution.

[481] H.R. 1582 § 1(a).

the NAAQS will not receive as large a boon. Significantly, the net effect of the bill is that every state will evidently be able to permit emissions up to the full limit of the NAAQS.

H.R. 1582 also extends the right to redesignation to areas that suffer from transport from within the same state.[482] The bill will amend Section 110(a)(2)(D)(i)(I) to provide that EPA must review SIPs for provisions to prevent significant transport not only from another state, but from areas within the state.[483] On its face, this suggests that EPA will have additional power to halt transport. In practice, however, this may shift to EPA the burden formerly borne by states to insure compliance by sources in different parts of the state. The agency already struggles to determine when a SIP fails to prevent significant contribution from one state to another and this expansion may magnify the agency's SIP review obligations. State governments profess to want to make all decisions at the local level, but this may be less appealing when it comes to telling the voters in one county that they must endure more stringent control measures for the benefit of voters in another county.

If passed, H.R. 1582 will undoubtedly provide statutory relief to downwind areas with significant transport. With the stroke of a pen, these areas will be entitled to lower classifications of nonattainment or may even attain the NAAQS. These areas immediately avoid costly and unpopular control measures necessary to achieve greater emissions reductions from in-state sources. Unfortunately, this attainment will be fictional and the inhabitants of the state may still endure unhealthy levels of ozone.

The most serious drawbacks of H.R. 1582 are that it will neither decrease the amount of transport from the upwind jurisdiction nor prevent the downwind state from contributing increased ozone to states further downwind. By artificially negating the effects of transport on downwind states, H.R. 1582 will remove the incentive for those states to exert political and other pressure on upwind states to reduce emissions. Instead of focussing energy on obtaining needed reductions from upwind states, the amendment will divert the attention and resources of EPA and other interested parties to whitewashing the true air quality in downwind areas. Perhaps worst of all, H.R. 1582 will permit a transport domino effect as EPA judges each state down the line only on the basis of its own in-state emissions. Potentially, states at the end of the ozone plume will have air that

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[482] *Id.* § 1(b).

[483] *Id.*

contains many times the current ozone NAAQS. Assuming that each state has met the truncated CAA requirements and that EPA has observed the procedural niceties, citizens exposed to demonstrably unhealthy air will have no recourse.

In another significant pending bill, the House of Representatives is also considering an expansion of the existing exemption for rural transport areas to make the exemption available for all areas subject to transport regardless of population.[484] H.R. 581 proposes an amendment to Section 182(h) of the 1990 CAA to permit both rural and non-rural areas to comply with the nonattainment provisions by observance of the requirements for marginal areas, regardless of their actual level of ozone.[485] Designation as a marginal nonattainment area by operation of law allows a state to evade the hydra of unpopular controls elsewhere in Section 182 such as reasonable further progress reductions, enhanced vehicle inspection and maintenance, and (until recently made voluntary) employer trip reduction measures.[486]

H.R. 581 is extremely significant because it contains a specific percentage level of ozone to define when an area is eligible for the exemption. The bill states that the area qualifies if "the sources of VOC (and where the Administrator determines relevant, NOx) emissions within the area do not contribute to more than thirty-five percent of the ozone concentrations measured in the area or in other areas."[487] Section 182(h) of the current CAA provides that the exemption is available conditioned upon an EPA finding that the sources within the area "do not make a significant contribution" to ozone in the area or elsewhere.[488] The author of H.R. 581 has thus provided explicit guidance on what should constitute "significant contribution" to another jurisdiction's air quality.[489]

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[484] *See* 141 CONG. REC. S4589 (daily ed. Mar. 24, 1995) (statement of Sen. Levin); *see also supra* text accompanying note 244.

[485] *See* H.R. 581, 104th Cong., 1st Sess. (1995).

[486] This raises some confusion because the deadline for marginal area attainment has already passed. The bill intends that rural transport areas need only comply with the control measures set out in the statute for areas with a marginal designation, regardless of whether the deadline for such areas has passed. In addition, however, EPA may continue to designate other new nonattainment areas in the future to which these control measures would apply. *See, e.g.*, Designation of Area for Air Quality Planning Purposes; New Mexico; Designation of Sunland Park Ozone Nonattainment Area, 60 Fed. Reg. 30,789–90 (1995) (creation of a new marginal nonattainment area because of violations in 1992–94). EPA set the attainment date as three years from the effective date of the redesignation.

[487] H.R. 581.

[488] 42 U.S.C. § 7511a(h)(2) (1990).

[489] The Senate analog to H.R. 581, S. 622, maintains the current significant contribution standard. *See* S. 622, 104th Cong., 1st Sess. (1995). The sponsor of S. 622 has suggested, however,

The definition of "significant contribution" as thirty-five percent of the downwind state's ozone level poses interesting problems. For the area itself, it provides a wide margin of protection for areas subject to sixty-five percent or more of ozone from external sources. This will presumably apply to a limited number of areas with small amounts of local emissions. With regard to the states downwind from this "victim" state, however, it provides less protection. The proposed amendment would allow an exempt area to contribute up to thirty-five percent of the ozone in a downwind area without limitation on the absolute quantity of the pollutant, i.e., thirty-five percent of one hundred tons of VOCs differs markedly from thirty-five percent of one million tons of VOCs. Deletion of the "rural" limitation by removal of the population requirements for exemption thus potentially permits exemption of areas with large amounts of emissions. Reliance on a fixed percentage deprives EPA of the authority to stop contribution that is significant in terms of absolute quantity, if not in percentage.

Arguably, the effects of H.R. 581 alone will not result in drastic increases in ozone transport because the number of areas capable of qualifying for the exemption will be small. The greater danger lies in the possible extension of its standard for "significant contribution" to other contexts. For example, if courts extrapolate that this definition reflects congressional intent for the same standard in Section 110(a)(2)(D), it will severely limit EPA's power to stop ozone transport. Definition of "significant contribution" as thirty-five percent is also extremely high in the abstract. Such a high trigger for "significant contribution" under the CAA will mean that downwind states must either limit their own emissions to sixty-five percent of the NAAQS to avoid nonattainment or bear the costs of control measures to offset up to thirty-five percent of their ozone level before they may seek relief from transport.[490] In either case, the downwind state suffers as a result of upwind emissions. This definition of "significant contribution" fails to address the inequities of transport for downwind states and does not adequately restrict transport.

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that Congress "refine this legislation further or make the legislative history so clear that the definition of 'significant contribution' is not subject to excessively narrow interpretation by an EPA Administrator . . . ." *See* 141 CONG. REC., S4589 (daily ed. Mar. 24, 1995) (statement of Sen. Levin).

[490] Use of nice, round numbers disguises the complicated and problematic modeling that will be necessary to establish that, for example, at least 36% of ozone comes from transport and that the state is therefore entitled to relief. *See supra* note 16 and accompanying text.

Another relevant bill pending before the 104th Congress directly addresses the problem of "overwhelming" ozone transport, i.e., the situation in which an area cannot possibly attain because of transport from another area.[491] In H.R. 3519, styled "The Clean Air Amendments Act of 1996," one member has proposed a broad array of amendments to the 1990 CAA.[492] One segment of this bill would amend Section 181 in order to redesignate an area as attainment, or to lower its nonattainment classification upon an Agency determination that the area suffers from overwhelming transport.[493] Potentially, this change could allow EPA to alleviate some of the statutory pressure upon jurisdictions subject to transport and otherwise unable to reduce ambient ozone levels sufficiently to avoid sanctions.[494]

The proposed provision makes sense for a number of reasons. First, the amended Section maintains EPA's authority and discretion to make the underlying determination and explicitly states that the Agency "may" change the nonattainment designation, rather than "shall" change it.[495] Second, the provision notes that it should be inapplicable in situations where ozone sources in the area at issue make a "significant contribution" to nonattainment in other areas, thereby mitigating the potential domino effect upon areas further downwind.[496] Finally, the proposed provision indicates that EPA's power to redesignate or reclassify an area should not be generally available to all nonattainment areas, only those in which indigenous sources do not "make a significant contribution" to the area's own

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[491] *See supra* note 314 and accompanying text.

[492] H.R. 3519, 104th Cong., 2d Sess. (1995). Environmentalists have described this bill as a whole as an attempt to "repeal the basic tenet that national clean air standards should be adequate to protect human health." *See Air Pollution Group Says Proposed Amendment Would Alter Entire Premise of CAA*, ENV'T REP. (BNA) No. 104, at D–5 (May 30, 1996).

[493] H.R. 3519, 104th Cong., 2d Sess. § 15 (1996). Specifically, the bill describes the determination to be:

> [T]hat the area is a downwind nonattainment area receiving ozone or ozone precursor transport from outside the area and control of ozone concentration is beyond the ability of the area to control because the volatile organic compounds and oxides of nitrogen from sources within such area do not make a significant contribution to ozone concentrations in such area (or in any other ozone nonattainment area).

[494] *See supra* note 207 and accompanying text.

[495] H.R. 3519 § 15; *cf.* H.R. 1582, 104th Cong., 1st Sess. (1995) (stating that the EPA must exclude all ozone attributable to transport in redesignation or reclassification determinations and must redesignate an area as attainment regardless of the true air quality if exclusion of the ozone from transport would compel this conclusion).

[496] *Compare* H.R. 3519 § 15 *with* H.R. 1582 (H.R. 1582 ignores the potential impact of transport on other areas farther downwind).

nonattainment.[497] Unlike H.R. 1582, this would not be an open invitation to all areas with any transport to seek special dispensation.[498]

The latter strength of H.R. 3519 is simultaneously its weakness. By stipulating that EPA may redesignate the area if its indigenous sources do not make a "significant contribution" to its own nonattainment (or that of another area), the bill perpetuates the use of an ambiguous standard.[499] The bill is silent as to what level of contribution should be sufficiently insignificant to justify relief, whether one percent, ninety-nine percent, or some point in between.

In addition, H.R. 3519 does not empower EPA to use flexibility with regard to control measures for a nonattainment area subject to overwhelming transport. The two options are merely to lower the area's nonattainment classification or to redesignate it to attainment.[500] EPA has drawn its own policy for overwhelming transport more narrowly to permit states to assume the later attainment date of an upwind area, not to avoid controls by redesignation or reclassification.[501] EPA's policy maintains the downwind area's obligation to reduce its own emissions and even suggests that the Agency might require more of both the upwind and downwind jurisdictions.[502] In short, H.R. 3519 would instruct EPA simply to ignore the elevated level of ozone and require no further steps to alleviate it.

Both houses of Congress are also considering moratoriums or other limitations on EPA enforcement and sanctions authority as a means of relieving states subject to transport.[503] S. 721 is illustrative of these proposals.[504] S. 721 proposes to impose a moratorium on all EPA enforcement action against areas or states designated as marginal or moderate nonattainment.[505] The bill defines enforcement action broadly to include all of EPA's enforcement levers under the 1990 CAA, including: (i) withholding of grants; (ii) imposition of a FIP; (iii)

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[497] *Id.*

[498] *See supra* note 479 and accompanying text.

[499] *See supra* notes 126–48 and accompanying text (discussing standard in context of § 126 cases).

[500] H.R. 3519, 104th Cong., 2d Sess. § 15 (1996).

[501] *See supra* note 323 and accompanying text.

[502] *See supra* note 328 and accompanying text.

[503] One bill would extend the deadline for imposition of mandatory sanctions from 18 to 30 months. *See* H.R. 1255, 104th Cong., 1st Sess. § 1(a) (1995). Another would abolish mandatory sanctions altogether and make sanctions purely discretionary, presumably making them less certain. H.R. 3519, 104th Cong., 2d Sess. § 5 (1996).

[504] *See* S. 721, 104th Cong., 1st Sess. § 1 (1995).

[505] *Id.* § 1(a).

imposition of a sanction; or (iv) any other action "intended to obtain compliance . . . or punish noncompliance."[506] The bill's sponsor indicated that it is intended to offset the unfairness to downwind states whose nonattainment results from ozone transport.[507]

S. 721 limits its effect to marginal and moderate nonattainment areas. This is attributable, in part, to the attainment deadlines for those areas that make them the most likely candidates for sanctions. It is also arguably justifiable on environmental and health protection grounds because these areas have relatively lower ozone NAAQS violations than serious, severe, and extreme ozone nonattainment areas. S. 721 in its current form would not restrict EPA's ability to sanction more seriously polluted areas for such things as failure to implement mandatory control measures. S. 721 is also commendable because it does not seek to dilute the substantive requirements of the CAA, but rather to grant states extra time to enact and implement appropriate control measures. To the extent that this allows states acting in good faith to reduce emissions without fear of harsh economic sanctions, it could encourage states to focus resources on compliance rather than mere avoidance of sanctions through litigation or other delay tactics.[508]

The most serious drawback of S. 721 is that it does not limit its applicability to areas suffering from ozone transport. As currently drafted, all areas with marginal or moderate nonattainment could avoid enforcement action of any kind for at least two years[509] regardless of whether their nonattainment resulted from transport or their own recalcitrance in implementing necessary control measures. S. 721 thus goes too far in removing EPA's ability to motivate dilatory states to take responsible action to meet the current attainment dates. EPA's ability to sanction states with mandatory or discretionary sanctions

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[506] *Id.* § 1(b).

[507] *See supra* notes 211–16 and accompanying text; *supra* note 261 (statement of Maine's Sen. Snowe).

[508] For example, states could focus on devising ways to make decentralized vehicle testing more reliable as a control measure instead of pursuing constitutional challenges to the 1990 CAA. *See supra* note 216 and accompanying text.

[509] In reality, the delay of attainment could be far longer if at the end of one year EPA must issue a finding of SIP insufficiency and the state has eighteen months before mandatory sanctions apply. Even then, the state may make a facially sufficient SIP submission that EPA must review and ultimately reject giving the state further time to comply. Clearly a state intent on "gaming" the CAA could drag out the process considerably, all to the detriment not only of its own citizens, but those of other states as well who might have to endure more stringent control measures as a result.

is effective to get the attention of states unwilling to follow the strictures of the 1990 CAA.[510]

As a corollary problem, S. 721 does not go far enough to protect all areas injured by transport. Even severe ozone nonattainment areas such as New York City suffer from inordinate amounts of ozone influx from New Jersey and points south. If, as is the stated goal, S. 721 is to relieve inequity to downwind states, its limitation to marginal and moderate ozone nonattainment areas is untenable. Aside from simple equity for the citizens of New York, it is unclear why moderate nonattainment areas farther south should receive special dispensation to continue contributing to New York's nonattainment without fear of retribution through enforcement actions. If the Senate continues consideration of S. 721, one could expect to see other members seek to expand its scope to include the full range of nonattainment classifications. Such an expansion of the enforcement moratorium would remove all teeth from the CAA and render it purely hortatory for years at a time when stronger action is essential.[511]

The legislation currently before the 104th Congress thus does not address the fundamental problems of the 1990 CAA. The bills attempt to treat the symptoms of problems, such as unpopular control measures, but fail to reach the underlying policy questions. If the purpose of the statute is to obtain clean air as expeditiously as possible, should some degree of inequity be tolerated? Permitting Virginia to evade a particular control measure could conceivably fulfill some larger policy objective. Should the CAA continue to require some states to enact more restrictive control measures than neighboring states? There may be reasons why the drivers of a state like Maine should continue to use reformulated gasoline even though their own local emissions would not alone require it under the CAA. Should an upwind state with a later attainment date lose some or all of the benefit of that later attainment date by accelerated imposition of control measures? There may be legitimate need for New York to accelerate control measures solely to benefit Connecticut and other downwind states. Congress has not sought to elucidate its position on such questions. Based upon

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[510] *See, e.g., Air Pollution: Congress Passes Bill That Would Delete Requirement For Test-Only I/M Facilities*, ENV'T REP. (BNA) No. 26, at 1262 (Nov. 24, 1995) (the mere threat of sanctions had five governors pleading their case directly to Sen. Dole and Rep. Gingrich).

[511] The prospect of blanket extensions shows a shocking lack of historical perspective on the series of ignored attainment dates that made the explicit firm deadlines of the 1990 CAA necessary in the first place.

the bills currently before Congress, one would assume that repudiation of a control measure or unanesthetized extraction of the CAA's teeth is all that is required to solve the tropospheric ozone problem.

VI. Proposed Solutions

As illustrated by the examples discussed above, EPA has gone to great lengths, if not contortions, to devise implementation strategies to reduce the impacts of ozone transport that are still consistent with the provisions of the 1990 CAA. Congress now has an opportunity to clarify how it wants EPA to implement the CAA to abate the epidemic problems of ozone transport. The following suggestions address the current implementation problems of the CAA and propose means to alleviate the inequities, yet encourage continued progress toward attainment.

A. *Modification of Provisions Applicable to Nonattainment Areas to Aid Downwind Jurisdictions*

The most pressing need is to provide downwind states with statutory relief from the inequitable impacts of ozone transport under the 1990 CAA.[512] EPA has attempted to interpret the CAA administratively to alleviate some of the harsher effects of the statute but, as discussed above, the Agency is constrained by the provisions of the statute and its efforts have generated judicial challenges.[513] If Congress intends EPA to afford states greater flexibility to meet the goals of the CAA, it should amend the statute accordingly. Three potential changes would provide relief: (i) modification of the definition of "nonattainment" to exclude areas that would attain but for the transported pollution from another jurisdiction (as in the case of international transport scenarios); (ii) limitation of required control strategies to those that are necessary to reach a reduction of emissions proportionate to the amount actually generated within the downwind jurisdiction; and (iii) creation of explicit statutory extensions of compliance deadlines to allow downwind jurisdictions the same degree of leniency accorded to upwind neighbors.

The first proposal to modify the definition of nonattainment to exclude areas that violate the NAAQS because of ozone transport

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[512] *See supra* Section III.

[513] *See supra* Section IV.

from other jurisdictions requires amendment of the definition of nonattainment in Section 107(d)(1)(A).[514] Congress could decree that EPA calculate the level of a state's nonattainment by excluding the ozone that results from transport.[515] This amendment appears necessary purely as a matter of fairness so that the CAA does not penalize states for the misfortune of being downwind from states with substantial emissions.[516] Congress should not, however, merely modify the definition without taking further steps to insure that both upwind and downwind states reduce actual emissions. Changing the definition of "attainment," without more, may be politically expedient, but it will not remedy the underlying pollution problem.

So long as protection of the public health and welfare remains a primary purpose of the CAA, Congress should not amend the statute to permit manipulation of ambient air data to make areas attain on paper but not in fact. Congress should amend the definition of nonattainment only in conjunction with a number of other requirements to reduce emissions such as: (i) unequivocally requiring upwind states to limit precursor emissions to prevent transport even if they are otherwise in attainment;[517] (ii) providing that downwind states benefitted by the new definition must enact practicable control measures to reduce in-state emissions even if the measures exceed those otherwise required;[518] and (iii) instructing EPA to police each state's in-state emissions for NAAQS attainment more aggressively and to hold the state accountable to keep the air at its own borders beneath the NAAQS to avoid a domino effect.[519] Unless Congress amends the CAA to provide for more stringent reduction of emissions in both

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[514] 42 U.S.C. § 7407(d)(1)(A).

[515] The 104th Congress has proposed such a measure. *See supra* Section V (discussion of H.R. 1582).

[516] *See supra* note 201 and accompanying text.

[517] For example, Congress might amend the CAA to provide explicitly that the ozone NAAQS are not a quota for emissions and that EPA may lower the NAAQS for all or part of a state to prevent transport from a given area.

[518] What would be "practicable" would entail difficult political decisions, but if Congress explicitly required downwind areas to enact more control measures it would alleviate more transport. For example, § 182(h) now permits rural transport areas to comply by enacting the mandatory measures for marginal nonattainment areas. Congress might follow this precedent and require redesignated areas to continue to impose the measures for a specific category of nonattainment or to choose from a menu of reasonable control measures.

[519] Increased EPA enforcement would be essential to prevent abuse of the redesignation. Congress must be willing to make EPA's authority more explicit than the current "significant contribution" standard of § 110(a)(2)(D) and must be willing to provide sufficient appropriations for the increased cost of modeling and enforcement apparatus.

upwind and downwind states, a new definition of nonattainment will be an excuse for states to continue with the status quo and avoid unpopular control measures. Changing the definition of nonattainment without clearer directives to reduce ozone precursor emissions will result in more ozone transport, not less.

The second proposal to require only those control measures that provide emissions reductions proportionate to the amount of emissions generated within the state entails amendment of the regime of control measures in Section 182.[520] This change would eliminate the unfairness of requiring states to adopt more intrusive control measures to offset ozone from another jurisdiction.[521] Like the first proposal, this change is also fundamentally at odds with the purpose of the CAA to protect the health of the public, whatever the source of the ozone. Citizens of a downwind state should not suffer exposure to unhealthy levels of ozone from upwind emissions simply because the downwind state has performed some legally required bare-minimum effort to restrict in-state emissions.

Congress should amend the CAA to require those control measures necessary to reduce the proportionate in-state contribution to nonattainment only if it can protect adequately the health of the public in another way. Congress could more safely make this change if, for example, it also unequivocally empowers EPA to restrict emissions from upwind states to prevent any transport into a downwind jurisdiction.[522] Without this qualification, a citizen of a downwind state will potentially breathe air that contains many times the amount of ozone allowed by the NAAQS and the state will have no legal obligation to take any steps not designed for in-state emissions reductions alone. Again, this amendment without counterbalancing increases of EPA's power to restrict cross-boundary emissions will exacerbate the ozone problem.

The third proposal, i.e., extending attainment dates for downwind areas, requires revision of the attainment deadlines in Section 181.[523] Such an amendment would allow EPA to extend the attainment dates of downwind areas within the plume of ozone from upwind areas with

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[520] 42 U.S.C. § 7511a.

[521] *See supra* note 204 and accompanying text.

[522] The more transport EPA can prevent, the less harmful exposure the citizens of downwind states must endure because of reduced control measure requirements. EPA should not have to extract commitments from states by cutting deals as it appears to have done in the SIP Demonstrations Memorandum. *See supra* note 391 and accompanying text.

[523] 42 U.S.C. § 7511.

later attainment dates without the imposition of additional control measures as currently contemplated by Section 181(b).[524] This change is equitable because it would allow downwind states to have as much additional time to comply with the NAAQS as their upwind neighbors, and to avoid additional control measures necessary only as a result of upwind emissions.

The obvious drawback of this change is that it may result in a domino effect causing areas further downwind to miss their own attainment deadlines. For example, the New York City area's attainment date currently makes it more difficult for the Boston area to attain by its own earlier attainment deadline. If Congress amends the CAA to allow areas such as Boston to enjoy the longer attainment period of an upwind jurisdiction, it presumably will interfere with the attainment of areas farther downwind like Portland, Maine. Maine will probably demand a comparable extension to counteract the later date for Boston. If states repeat this process all across the Northeast OTR, the potential result is that all states may end up with later attainment dates.[525] Such an outcome conflicts with the stated congressional desire to provide for attainment at the earliest possible date.

If Congress amends the CAA to provide extensions to alleviate the juxtaposition of differing attainment deadlines, it should do so consistently with EPA's Overwhelming Transport Memorandum.[526] EPA's policy allows administrative extensions only after examination of the emissions modeling submitted by both the upwind and the downwind state to determine that neither can do anything practicable to maintain the original attainment deadline. EPA indicated that to grant the extension it might require adoption of additional control measures by downwind states and acceleration of control measures by upwind states. In short, EPA's policy could require more of both states than otherwise stipulated in the CAA. Any amendment to the CAA to provide extensions to downwind states under these circumstances should ratify EPA's policy and confirm explicitly that EPA may impose additional control measures and thereby avoid the potential

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[524] *See supra* note 209 and accompanying text.

[525] All jurisdictions will probably gravitate toward the last attainment date in the region, at which point officials in the most severely polluted jurisdiction likely will argue that they need additional time because of the contribution from other areas and thus start a new round of extensions.

[526] *See supra* note 324 and accompanying text.

domino effect for states farther downwind. Such an amendment would make moot the current challenges to EPA's policy.[527]

B. *Creation of a Mechanism for States to Initiate EPA Review of Ozone Transport from Upwind States*

A second necessary form of relief is the creation of an effective means for states subject to transport to petition EPA to assess the validity of an upwind state's SIP for compliance with Section 110(a)(2)(D). At present, states may submit comments during the Agency review of another state's SIP but, absent a pending EPA SIP review, a state has no easy mechanism to direct EPA attention to a particular transport problem.[528] Section 110(a)(2)(D) provides a downwind state with no independent right to seek review of an upwind state's SIP in the event of "significant contribution" to the downwind state's nonattainment.[529] Section 126 ostensibly provides states with such a mechanism, but the nature of the sources encompassed and the high threshold necessary for redress severely limit its relevance.[530] To date, it has provided little direct assistance for downwind states for any pollutant and its utility for ozone transport is probably even more attenuated.[531]

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[527] *See supra* note 347 and accompanying text.

[528] *See supra* note 108 and accompanying text.

[529] *See* New York v. EPA, 852 F.2d 574, 577–79 (D.C. Cir. 1988). The right to petition is limited expressly to states. In the redesignation of an area in Wisconsin, one commenter contended that EPA had failed to enforce prohibitions against interstate pollution. EPA's response was, in essence, that because no state had filed a § 126 petition, the Agency had no duty to consider the issue. *See Wisconsin Redesignation*, *supra* note 355, at 43,669.

[530] *See supra* note 123 and accompanying text.

[531] States are left floundering for a viable means to obtain redress. For example, Maine's governor sent a letter to EPA in August of 1995 demanding action to reduce ozone transport and had to provide a vague basis for his claim under § 110 and § 126, neither of which really provide a vehicle for independent review of another state's complete SIP on demand. Significantly, Governor King proposed to waive Maine's right to a resolution of the § 126 petition within sixty days if EPA would make certain concessions. Chief among these is the Agency's stipulation that transport of ozone into Maine "significantly contributes" to the state's nonattainment. Governor King wants this stipulation to remove "the unrealistic burden" of proving this fact. Even if EPA could ignore the express language of § 126 that limits its applicability to major stationary sources, failure to develop modeling proof would render it impossible to identify the sources subject to emission restrictions or cessation in accordance with § 126(c). Moreover, it is unclear how EPA could waive proof of a standard that would prejudice sources in other states. These complications highlight the limited utility of § 126 for states seeking redress for transport. Maine doubtless suffers from ozone transport, but proving this fact and obtaining relief are difficult under the current CAA. *See* Letter from Angus S. King Jr., Governor of Maine, to Carol Browner, Adm'r, EPA, regarding "Maine's Ozone Attainment Deadline, Overwhelming Transport Designation, Section 110/126 Petitions" (Aug. 1, 1995) [here-

Congress should create a new mechanism for states to focus EPA attention on specific transport problems other than the small universe of contexts in which Section 126 is applicable. This right could be analogous to Section 126, but specifically allow the petitioner to seek redress for transport from a broader spectrum of sources that generate ozone precursors.[532] It would be unwise, however, to allow states to force EPA to review another state's entire SIP without adequate grounds. The normal SIP review process is very time and resource intensive and it would tax the Agency's already limited resources to investigate each and every alleged instance of "significant contribution" to the complaining state's nonattainment.[533] Allowance of a review with limited focus like that of Section 126 on the effects of specific sources is thus preferable. Similarly, the right to petition should be limited to states that can establish more than de minimis transport effects, like EPA's current policy for states or areas subject to "overwhelming transport."[534]

In the past, Congress has allowed EPA to set the threshold at which redress for transport is available to a downwind state. Hence, the Agency has stringent standards for relief in Section 126 proceedings. More recently, Congress has empowered EPA to take a stronger role in transport abatement by strengthening the standard of SIP review in Section 110(a)(2)(D). In the process of instructing EPA how to assess new control measures proposed by the Northeast OTC in Section 184(c), Congress also indicated a desire to allow states to enact more stringent regional control measures that EPA finds are "necessary" to allow the states to attain the ozone NAAQS.[535] This standard is more protective of downwind states because it shifts the focus of the analysis to the effect of the pollutant, rather than the relative proportion of in-state and out-of-state emissions.[536] Congress

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inafter *Maine Demand Letter*]. By letter, EPA deferred action upon Maine's petition pending the outcome of OTAG's inquiries and efforts to develop more regional control measures. *See* Letter from Mary D. Nichols, Assistant Adm'r for Air and Radiation, EPA, to the Honorable Angus S. King, Jr., Governor of Maine (Sept. 5, 1995) (on file with author).

[532] The inherent limitations in modeling would likely limit the use of such a provision to the most egregious situations. Modeling to show the precise source of ozone is difficult. Only the most clear-cut of cases allow redress. Unless a state could establish that its nonattainment stemmed from transport from the upwind state sources, the provision would be irrelevant. In this way, Congress could avoid abuse of the mechanism.

[533] The court *New York v. EPA* noted that it would paralyze the Agency to review a SIP repeatedly without adequate time and resources. *New York v. EPA*, 852 F.2d at 577–79.

[534] *See supra* note 324.

[535] *See supra* note 168 and accompanying text.

[536] *Id.*

should consider mandating the use of the necessity standard for review of state petitions that allege unacceptable contribution of transported ozone from an upwind state, rather than the more vague "significant contribution" standard currently in both Section 126 and Section 110. The analysis would thus be whether the elimination of ozone transport is necessary to allow the downwind state to attain. The former analysis of the relative proportions of in-state and out-of-state contributions should be subsumed in the analysis of interstate equity issues as discussed below.

C. *Stricter Enforcement of Section 110(a)(2)(D) to Address Resource Allocation Issues*

Congress has gradually strengthened EPA's authority to review SIPs for their effects upon other states.[537] The standard of SIP scrutiny has risen from checking for mere inclusion of "information exchange" provisions to insuring substantive prohibition of significant contribution.[538] Thus far, Congress has left to EPA the determination of what degree of contribution is significant and what amount of transport is a violation of the standard of Section 110(a)(2)(D)(i)(I).[539] This reflects EPA's inherent expertise to resolve complex technological determinations regarding pollution and its effects.[540] Unfortunately, the transfer of responsibility to EPA has also provided a means for Congress to avoid the underlying issues of interstate pollution prevention. Recently, members of the 104th Congress have voiced their concerns that the CAA is inequitable to some states.[541] This may indicate the first willingness to confront the difficulties at the heart of the CAA transport provisions.

Air is a resource shared by all in common. Without adequate controls, individuals will use this resource according to the paradigm of the tragedy of the commons.[542] Absent a strong regulating force, individual states will continue to allow use of air resources in ways that are in their own self-interest. An upwind state will not voluntarily close down or restrict its industry and put its citizens out of work

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[537] *See supra* Section II.

[538] *See supra* notes 72, 97, 177 and accompanying text.

[539] EPA alone makes this determination in the SIP approval process. *See supra* note 71.

[540] *See supra* note 435.

[541] *See, e.g.*, 141 CONG. REC. S5604 (daily ed. Apr. 24, 1995) (statement of Sen. Snowe introducing S. 721); 141 CONG. REC. S4590 (daily ed. Mar. 24, 1995) (statement of Sen. Levin introducing H.R. 622).

[542] *See supra* note 61.

to benefit a downwind state.[543] The political, economic, and social costs make restriction of emissions for the benefit of others perhaps hundreds of miles away unattractive. Externalizing the true costs of in-state emissions remains the path of least resistance. Unfortunately, this behavior will result in decreased air quality for all.[544]

The hesitancy of EPA to use Section 110(a)(2)(D)(i)(I) aggressively may result in part from fear of the Gordian Knot of "interstate equity."[545] Under what circumstances should EPA permit one state to pollute the air of another? Interstate equity would require EPA to address the problem of ozone transport in a way that fairly allocates the benefits and burdens associated with the resolution among the states. For example, an analysis of the SIPs of two adjoining states with a shared transport problem might require EPA to explore factors such as: (i) whether pollutant sources in each state are new or existing and the relative proportions thereof in each state; (ii) whether the states have SIPs with equal standards for emissions and equal control measures; (iii) whether the states enforce their SIPs equally vigorously; (iv) whether the nonattainment status of either state results from sources within its own borders or is the result of transport and the relative proportions of indigenous and transported pollutants in each state; (v) whether the states have an equivalent number of drivers or vehicles and the degree to which cross-border commuters contribute to the problem of one jurisdiction or the other; and (vi) the relative economic impacts of various solutions upon each state. The sheer complexity of such an analysis is daunting. The variables would cause a quagmire. The amount of political will and patience it would require to resolve the issues to the satisfaction of the affected parties is tremendous. At present, the CAA provides EPA with no guidance to resolve transport disputes between states except in the broadest terms of alleviating "significant contribution."

It is unreasonable to expect states to act altruistically at all times. Thus, some entity must protect air resources and insure that they are

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[543] Recent events suggest that states will not even risk asking their citizens to endure an inconvenient wait for an automobile inspection. *See, e.g.*, Milne, *supra* note 263 (detailing opposition to centralized vehicle emissions testing). Attempts at implementing the reformulated gasoline control measure in Pennsylvania and Wisconsin indicated that the public would not even pay 5 to 15 cents more per gallon of gasoline and would rather foist the problem off on industry. *See Mobile Sources Not Big Game For Nitrogen Oxide*, OCTANE WK., Feb. 5, 1996.

[544] This is the natural course of events in the tragedy of the commons scenario. *See supra* note 61.

[545] For an insightful exploration of the nuances of this concept in the context of interstate air pollution, see Silverstein, *supra* note 52.

shared, if not strictly equitably, at least according to a rational distribution plan agreed upon by the appropriate parties. Either EPA or Congress should resolve the fundamental issues of resource allocation directly by agreed-upon means. It is beyond the scope of this paper to engage in the complex technical, economic, and political analysis that is necessary to devise an appropriate plan for resource allocation.[546] Based upon the historical development of the CAA and EPA's efforts to implement its provisions, however, it is possible to observe that the ozone transport problem is far from solved. The last three revisions of the CAA included progressively more stringent requirements for SIP reviews. When the stakes for nonattainment of the ozone NAAQS were lower, there was less political pressure to devise more protective standards. Now that costly and unpopular mandatory control measures directly affect downwind states, these states will clamor for more direct resolution of allocation issues.[547]

VII. Conclusion

Ground level ozone pollution is an increasingly critical concern throughout the United States and in the northeastern states in particular. Because ozone can travel great distances in the atmosphere, it often exacerbates the air quality in geographic areas far downwind from the sources that generated its precursor chemicals. These downwind areas are often within different states, subject to different SIPs, and thus have no direct power to regulate the upwind emissions. Despite this lack of control over the upwind precursor emissions, the 1990 CAA penalizes the downwind jurisdiction for nonattainment without regard to the actual sources of the ozone. This problem is particularly acute in the northeast corridor of the United States, where prevailing winds and a chain of densely populated areas create

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[546] Commentators have proposed workable plans. One would require enactment of specific regional plans to allocate both "decrements," where the states must allocate reductions in existing emissions to attain the NAAQS, and "increments," where states may share permissible new emissions comparable to the PSD increment analysis currently in § 163. *See* 42 U.S.C. § 7473. In each formula, the decision maker must balance complex variables with whatever form of fairness is agreed upon. *See* Hirsch & Abramovitz, *supra* note 74, at 71–74.

[547] *See, e.g., Maine's Demand Letter, supra* note 531. Maine demanded that EPA: (i) grant redesignations, NOx waivers, and Northeast OTR opt-out petitions; (ii) allow designation as an overwhelming transport region; (iii) accelerate regional control measure initiatives; and (iv) take decisive action against other states under § 110 and § 126. Similar demands were made by New York and business interests in Pennsylvania. *See supra* notes 49, 265.

a mass of ozone-laden air that subjects each downwind state to ozone from neighboring states.

The issue of ozone transport under the CAA raises essential questions about the nation's pollution policy. How should the law allocate the benefits and burdens of pollution control? Is it equitable that one jurisdiction through the vagaries of geography and meteorology should suffer both from the adjacent state's pollution and from the nation's laws? Why must downwind states bear additional burdens of pollution control when the measures will not significantly alleviate the pollution and when upwind states could easily do more to reduce pollution? The current CAA relies too heavily on the altruism of one state to preserve the air quality of another. It takes tremendous political will to enact unpopular laws that restrict economic development or the use of automobiles by one's own citizens; it is more difficult to do so when it is for the benefit of citizens of distant jurisdictions.

EPA has recognized fundamental inconsistencies or inequities in the CAA statutory language concerning nonattainment areas. The Agency has attempted to devise administrative policies to alleviate some of the burden that ozone transport imposes on downwind states and to prevent creation of unfair burdens on upwind states. EPA geared these policies to minimize inequities while still requiring expeditious progress towards attainment of the ozone NAAQS by all areas in all states. EPA is now embroiled in litigation to defend its policies, hounded by both pro- and anti-environmental forces.

Congress has indicated its readiness to amend the 1990 CAA to rectify perceived problems. Rather than weakening the statute by revoking control measures, delaying compliance, or diluting EPA's powers, Congress should look to the fundamental underlying problems of resource allocation. Either Congress should directly address the issue of resource allocation in interstate pollution contexts, or it should unequivocally empower EPA to make such decisions. The current provisions authorizing EPA to stop interstate transport through SIP reviews in Section 110(a)(2)(D) and Section 126 have not been effective enough. Congress should openly debate and decide what constitutes "significant contribution" in the transport context. This may result in an inadequately protective standard like that in legislation already proposed in the 104th Congress, but at least it will reflect a consensus of opinion on the fundamental question. Alternatively, and probably preferably, Congress should explicitly empower

EPA to determine what constitutes "significant contribution" on a case-by-case basis and to impose more stringent control measures as necessary for attainment. Federal regulation and federal agencies are popular whipping boys in the present political climate, but interstate pollution prevention is one area in which strong federal authority is essential.